

THE BEST BUCKLES for ARCTICS
ARE MADE BY
THE WELD MFG. CO.,
41 Lincoln Street, - - Boston.

TABLE OF CONTENTS 296.
BUYERS' DIRECTORY 52.

"Cravenette"
RAIN COATS

Must have this Circular
Trade Mark stamped in
inside of coat....



INDIA RUBBER WORLD

CAOUTCHOUC
HEVEA BRASILENSIS

GUTTA-PERCHA

Edited by HENRY C. PEARSON—Offices, No. 35 West 21st Street, NEW YORK.

Vol. XXXVI. No. 3.

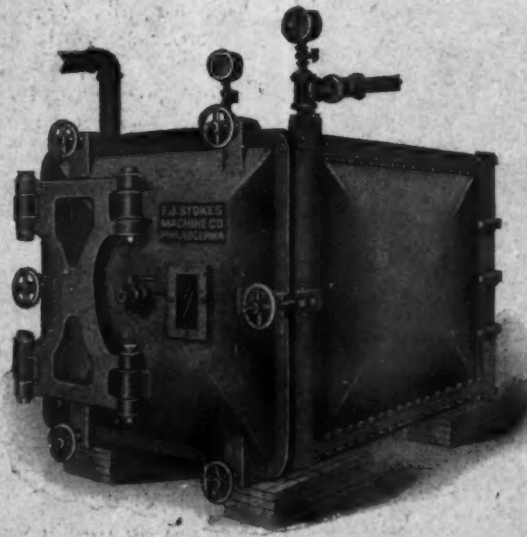
JUNE 1, 1907.

35 CENTS.

\$3.00 Per Year.
\$3.50 Abroad.

Do You Know What This Is?

YOU SHOULD HAVE ONE FOR DRYING



Sheet and Reclaimed Rubber

WRITE US FOR CATALOGUE AND PRICES.

F. J. STOKES MACHINE CO., Philadelphia

LAMPBLACKS ESPECIALLY FOR RUBBER MANUFACTURE

SAMUEL CABOT, BOSTON, MASS.



ESTABLISHED 1864
SPECIAL ATTENTION GIVEN TO EXPORT BUSINESS. CORRESPONDENCE AND INQUIRIES SOLICITED.

The Canadian Rubber Co. of Montreal

MANUFACTURERS OF
ALL KINDS OF HIGH GRADE GENERAL RUBBER GOODS
AND SOLE MAKERS OF THE
Celebrated "CANADIAN" Rubbers

We are always open to correspond with experienced Rubber men, both for Factory and Executive Work.

Factory and Executive Offices:
MONTREAL, P. Q.

Inventions kindred to the Trade and ideas for development, invited. Our Development Department gives these matters special attention.

Canadian Sales Branches: HALIFAX, N. S., MONTREAL, Que., TORONTO, Ont., WINNIPEG, Man., REGINA, SASK.,
CALGARY, Alta., VANCOUVER, B. C., VICTORIA, B. C.
D. LORNE MCGIBBON, J. O. NICHOLSON, M. C. MULLARKEY, R. J. YOUNGE, R. LLOYD JONES,
Vice-Pres. & Managing Director, Manager Mechanical Goods, Manager Footwear Dept., Sales Manager, Sect.-Treas.

B. LOEWENTHAL & COMPANY

NEW YORK, 136 Liberty St. BUY AND SELL
CHICAGO, 162 5th Avenue. IN ANY GRADE
Cable Address "Gyblawell" New York. Lister's Code Used. IN ANY QUANTITY.

SCRAP RUBBER

SCARRITE

Under this cipher word we desire to introduce a high melting point material, well adapted for makers of rubber, electrical compounds, waterproofing, saturating materials, paints and cements.

This material is not to conflict with our Hydro Carbon, Mineral Rubber, Elastic Compound, and Compo Black in their several channels of consumption. Please write for prices and samples.

William H. Scheel

159 Maiden Lane and 37 Fletcher Street
New York, N. Y.

ADOLPH HIRSCH & CO.

Importers and Dealers in

Brazil Manicoba and Sheet Rubber

OF ALL DESCRIPTIONS

BRIDGE ARCH, 17 Frankfort St., NEW YORK

Telephone 8196 John

Cable Address "Adhirsch"

ELECTRIC HOSE & RUBBER CO.,

WILMINGTON, DELAWARE.



MANUFACTURERS OF

Hose for all purposes by a new and improved process—made in any continuous length.

Vulcanized under pressure.

Cannot possibly unwrap or separate between plies.
Great strength and durability.

Mention the India Rubber World when you write.



THE EUREKA STEAM TRAP.

In construction the most simple; in work, just as good as its construction is simple.

Used by the Navy, Steel Mills, Paper Mills and Rubber Mills.

Indispensable for Presses and Vulcanizers.

OSGOOD SAYEN,

421 Arcade Building, Philadelphia, Pa.

Mention The India Rubber World when you write.

1, 190

UNITED

real

UNITED

OS

the Trade
t, invited
sent given
ation.

SASK,

JONES,

es.

CO.,

Improved
rth.

en plies.

AP.

work,

mpie.

Mills

izers.

ia, Pa.



Published on the 1st of each Month by

THE INDIA RUBBER PUBLISHING CO.

No. 35 WEST 21st STREET, NEW YORK.

CABLE ADDRESS: IRWORLD, NEW YORK.

HENRY C. PEARSON,
EDITOR.**HAWTHORNE HILL,**
ASSOCIATE.

Vol. 36.

JUNE 1, 1907.

No. 3.

SUBSCRIPTIONS: \$3.00 per year, \$1.75 for six months, postpaid, for the United States and dependencies and Mexico. To the Dominion of Canada and all other countries, \$3.50 (or equivalent funds) per year, postpaid.

ADVERTISING: Rates will be made known on application.

REMITTANCES: Should always be made by bank draft, Postoffice or Express money orders on New York, payable to THE INDIA RUBBER PUBLISHING COMPANY. Remittances for foreign subscriptions should be sent by International Postal order, payable as above.

DISCONTINUANCES: Yearly orders for subscriptions and advertising are regarded as permanent, and after the first twelve months they will be discontinued only at the request of the subscriber or advertiser. Bills are rendered promptly at the beginning of each period, and thereby our patrons have due notice of continuance.

COPYRIGHT, 1907, BY

THE INDIA RUBBER PUBLISHING CO.

Entered at New York postoffice as mail matter of the second class.

TABLE OF CONTENTS ON LAST PAGE READING MATTER.

CURING RUBBER IN BULK.

WITHOUT doubt a notable step in economy in the production of raw rubber in the Far East has been taken in the last year or two, particularly on the larger plantations. The coagulation of rubber in ordinary dinner plates was all well enough in the days when only a few pounds were to be dealt with, and the object was, first, to determine whether the planted trees would yield rubber, and, secondly, to find out how the product would be received by the manufacturers.

But these questions having been settled satisfactorily, and the rubber production of Ceylon and Malaya having reached a million pounds a year, with the prospect of a constant and rapid increase, the former laboratory scale of operations has become inadequate. The estate manager with a few hundred pounds in a season to deal with might have treated the rubber in his dining room, had he cared to do so. Handling a thousand pounds a day, and more, as some of them will be doing soon, is an entirely different proposition. Much cheaper methods than handling latex by the saucerful become necessary, since the first object of the rubber plantation is returns for the shareholders from the proceeds of rubber sales. It is interesting to note in how many ways economical methods have been evolved for handling Ceylon rubber on a comparatively large scale—for treating it in bulk, so to speak. Only

in this way could rubber be produced at a cost of 17 cents a pound or less, of a quality salable as high as \$1.30 or \$1.40 a pound.

And in view of the newness of the Ceylon rubber interest it is not unreasonable to expect that further improvements in the direction of economical production are yet to be recorded. All of which is of interest as relating to the Far East alone, but may not some of the new ideas prove applicable to rubber in general? Here we see the Amazon valley, for example, discharging this year probably 80 pounds of rubber for every pound of plantation rubber from British Asia. It is true that the Amazon output, for the most part, is smoked in preparation, while the other is not; but if the smoking is essential—and thus far it seems to be—why may not processes and apparatus be devised for smoking rubber in bulk instead of by piecemeal, as now practiced on the Amazon?

We do not doubt that some such practice will be evolved and will become general wherever *Hevea* rubber is produced, whether in forests or on plantations.

THE VALUE OF A RUBBER TREE.

IT is natural that the British investors who have put so many millions into the new business of planting rubber should feel an interest in all the details of what there is to show for their money, and the directors of the rubber companies, in preparing their annual reports, show evidence of a desire to satisfy a laudable curiosity. Hence we find generally in these reports a definite statement of the number of rubber trees planted, if not an exact census of the trees actually standing at the date of the report, with the ages stated. These figures, in the aggregate, seem large, but the mere existence of trees is not conclusive evidence of wealth. On many of the newer plantations, of course, they are merely the basis of hopes.

But this year the tree censuses are much more interesting than statistical tables generally are, for the reason that in a number of the reports, side by side with the number of trees, is mentioned the amount of rubber produced, followed by a statement of profits, and the details of dividends. When, for instance, it is shown that 11,348 trees, averaging less than seven years, yield 32,693 pounds of rubber—an average of nearly 3 pounds per tree—which sells at an average of \$1.21½, after deducting the selling expenses, the study of the value of a tree as an asset becomes of interest. In this case the dividend disbursed (less than the total net earnings) works out at \$2.37 per tree. Capitalized on an 8 per cent. basis, this gives the trees a value of \$30 each, or between \$3,000 and \$6,000 per acre of trees, according to the closeness of planting. The same rule applied to another company, which paid \$91,888 in dividends, based on the output from 81,500 trees, would give an average result of \$1.13 per tree, and fix its value at \$16.62.

The list could be extended indefinitely, but the results would be incomplete, for the reason that in the case of each company the expenses of the whole plantation are charged against the returns from the income producing trees. Otherwise the value per tree, measured by its earning capacity, would appear much larger. But our figures will at least suggest a reason why shareholders in the planting companies are so much interested in the actual number of trees they own.

FOR THE IMPROVEMENT OF COTTON.

TO most people, no doubt, cotton is cotton—all alike. In these pages last month was discussed the difference between the products of different cotton plantations and also in the growths from different seed, with a view to pointing out, for instance, to rubber manufacturers, that a wider choice in cotton fiber lay before them than perhaps was generally recognized. But there is another respect in which a difference in cottons exists. It is based upon the treatment of the fiber in its preparation for market.

The *New York Journal of Commerce* attributes a certain lack or backwardness, so to speak, in methods and processes of dealing with raw cotton among the planters of the southern United States to the fact that they have had for so long a practical monopoly of the production of this important commodity. With practically the whole world depending upon them for a supply, and the possibility of competition hardly deemed worthy even of consideration, the American cotton planters have worked along the lines of a maximum of production with a minimum of effort and care. The world was obliged to buy their cotton, and to take it in whatever shape it might happen to be put up. As the *Journal* says: "The way American cotton is treated in its preparation for the markets at home and abroad is a shame to the country, a vexation to manufacturers, and a source of waste and loss to all concerned."

One of the objects of the proposed meeting together of the cotton manufacturers and the cotton growers at Atlanta next fall is to provide an opportunity for discussion of such details as improved ginning, compression, baling, and the like, with a view to the future avoidance of the real damage to the fiber that results from existing careless methods. Whatever tends to improvement in these respects cannot fail to be of advantage to an industry in which so much cotton is called for as in the rubber manufacture.

PATENT LAW PROTECTION.

A NUMBER of tire patent infringement suits have been filed in this country recently, most of them relating to patents granted years ago, and now nearing their date of expiration. Some of the patents have been the subject of litigation before. Suits are pending now

for the infringement of patents the validity of which was supposed to have been established by broad decisions long ago.

But the price of patent protection is eternal vigilance. It will be remembered that the Dunlop tire patent in England, though defended successfully through every court having jurisdiction, including even the House of Lords, continued to be the subject of actions at law as long as the patent existed. The same tendency appears in this country, showing that the law "securing to inventors the exclusive right to their discoveries" is less effective than one might think from the first reading of it.

In truth, the law secures nothing to an inventor but a certain defined standing in court which he might not have otherwise, and unless he have money to pay lawyers that standing will do him mighty little good. Inventors as a rule are not blessed with wealth, and we have seen how Goodyear, for instance, would have been unable to protect his vulcanization patent without the help of his licensees, who thereby became the practical owners of the patent and the real beneficiaries under it. Could Tillinghast have protected his "single tube" tire patent in any court in the land? Could Grant, the patentee of the solid tire, had he retained ownership of the patent as an individual, have prevented the manufacture of the tire from becoming open to the world? Only a man of means can hope to be able successfully to oppose the unauthorized use of an invention of which he is the author, the patent laws to the contrary notwithstanding.

This situation is not new, nor is the general appreciation of it new. But a different condition is not to be attained by merely amending the patent law; there must be a radically different idea involved. Today an inventor files specifications of an invention which he claims as his own, after which he is entitled to defend his rights to the invention, in the United States courts—if he be able to pay for competent legal advice.

What we wish to submit as being worthy of consideration is the idea of having a national tribunal, to which an inventor, protected by a patent, could appeal in the event of his rights being infringed—the poor inventor on the same terms as the rich one. It might be too much to ask that the government protect without limit every right claimed by an inventor under a grant of letters patent; on the other hand, is it equitable that the inventor should have no protection from the government beyond the right to sue at law whoever may seize his property without compensation?

How long would a condition be tolerated under which, if A should steal B's watch, the only redress open to B—and the only protection to society—would be for B to retain counsel and prosecute the alleged thief, without relying upon the State for any assistance?

WITH RUBBER GRADUALLY DECLINING IN PRICE for a year past little talk has been heard of speculation as a factor in the market. Why? Does the "speculator" work only to "bull" prices, and

chiefly at times when prices are at the top notch? If the aforesaid speculators can, by merely willing it, materially increase the cost of rubber to consumers, why have they now let prices drop to the lowest figures for three years past? While these questions appear to be in order, it does not seem to be out of place to remark that the present market situation in raw rubber evidently is a direct result of conditions of supply and demand. It might be added that the true speculator can work when prices are falling as well as when they are on the rise, and we have no guarantee that prices may not go still lower to further the interest of some selfish secret factor in the trade.

THEY WEAR GALOSHES NOW IN JERUSALEM; in fact, there are not many places outside the tropics where rubber footwear has not found its way. But in spite of the steady growth in the consumption of such goods, the exports of the American product show no increase, though other American rubber goods go abroad in larger volume all the time. A consul writing from the Levant intimates that while American "rubbers" attract at first by their lightness and neat appearance, they do not last as long as the heavier makes of some other countries. Whoever can produce an overshoe that is at one and the same time lighter, stronger, and lower priced than any other can hope for a wide market in the East.

FORTY THOUSAND AUTOMOBILES IN NEW YORK do not call forth nearly so much comment as 10,000 rubber-tired, horse-drawn cabs in London a few years ago, as affording an important outlet for the rubber factories. The rubber vehicle tire has become too commonplace to attract any such popular attention as formerly. All the same it seems worth while to note that a single firm is under contract to supply 20,000 motor cabs for London streets, all to be equipped with rubber tires. And ten years hence no doubt to-day's figures of rubber tire production will be thought as insignificant as those prior to the date of Dunlop's first patent now seem.

THE LATEST "RUBBER KING" is Menelik, king of kings and emperor of Ethiopia, or Abyssinia, as we call it. His country, of no mean extent, appears to be rich in rubber of good quality, and its exploitation has been begun on an important scale. Menelik differs from the other native rulers in the African rubber belt in that he is still "boss" in his own country, with the power to grant concessions without outside control or interference, and it will be interesting to watch the development of the new rubber interest in his dominions, it being taken for granted that having seen it once started, he will desire to see as large an output as possible.

WE HAVE MUCH PLEASURE IN WELCOMING to the field of technical journalism Mr. Herbert Wright, who lately resigned his post as controller of the experiment station in Ceylon, after much creditable work in connection with rubber culture, to return to England, and whose appointment as editor of our London contemporary, *The India-Rubber Journal*, is now announced.

A NEW CROP OF ARTIFICIAL RUBBERS comes with every year, many of them the subject of patents, but as yet none seems to have been developed by a practical rubber man. Evidently the less one knows about rubber the more apt he is to attempt to supply the "long-felt want" for a rubber "substitute."

WHAT HAS BECOME OF THE "RUBBER TRUST" that all the newspapers used to feel obliged to attack so vehemently every few weeks?

AT WHAT PRICE LEVEL do manufacturers buy crude rubber most freely?

THE RUBBER INDUSTRY IN JAPAN.

TO THE EDITOR OF THE INDIA RUBBER WORLD: Since the close of our war with Russia the industries of Japan have been increasing at an unprecedented rate. More than 200 new industrial enterprises have been incorporated, with an aggregate capital stated at about 150,000,000 yen [= \$75,000,000], and the construction of new factories is proceeding actively in consequence. Five new concerns have been incorporated in the india-rubber and insulated wire branches as follows:

Tokyo Gomu Kabushiki Kaisha (Tokio Rubber Co., Limited); capital, 1,000,000 yen. They are now in position to manufacture mechanical rubber goods. One of the incorporators is C. Ogiwara, who was the founder of the Oriental Rubber Co., of Tokio, though he had not been with the latter company for some years. [For an account of the latter see THE INDIA RUBBER WORLD July 1, 1900—page 279.]

Nippon Densen Kaisha (Japan Electrical Wire Co., Limited), at Tokio; capital, 1,000,000 yen.

Tokyo Densen Kaisha (Tokio Electrical Wire Co., Limited), at Tokio; capital, 1,000,000 yen.

Nippon Densen Seizo Kaisha (Japan Electrical Wire Manufacturing Co., Limited), at Osaka; capital, 1,000,000 yen.

Teikoku Densen Kaisha (Imperial Electrical Wire Co., Limited), at Osaka; capital, 2,000,000 yen.

The last four companies will make insulated wires, as their names indicate, and some of them have started work, but chiefly on weatherproof wire.

The Tsuda Rubber Works, at Kyoto, owned formerly by an individual, have become incorporated as Tsuda & Co. They manufacture electric wires only, but are enlarging their plant.

The Yokohama Electrical Wire Co., Limited, have increased their capital to 1,200,000 yen, and are enlarging their factory.

The Fujikura Insulated Wire and Rubber Co., manufacturers of insulated wires and mackintoshes, at Tokio, continue to expand, both in the extent of their building and their capacity for production.

The Tokio Industrial Exposition opened in Ueno Park on the 20th instant and is to continue until July 1. It is not yet complete, but doubtless will contain not a few exhibits illustrating the progress of the rubber and allied industries in this country.

Tokio, Japan, March 23, 1907.

K. OKADA.

[DETAILS regarding the older rubber factories in Japan appeared in THE INDIA RUBBER WORLD August 1, 1905—page 370.]

GUAYULE INTERESTS.

AN act of the Texas legislature, to become effective on July 11, authorizes the commissioner of the general land office in that state, with the approval of the governor and attorney general, to sell the guayule shrubs found on any school lands in Texas. "The sales may be upon such terms, conditions and limitations as they may deem most advantageous, having in view the best interests of the school fund and the state."

A guayule rubber factory now being erected at Ciudad Juarez, Mexico, is the first in the state of Chihuahua. The location is just across the Rio Grande from El Paso, Texas, and the capital is supplied by citizens of the latter place, headed by Frank Kirk, who is general manager. Machinery is being made at El Paso for a plant capable of treating 15 tons of shrub daily. The object of building across the river is to avoid paying an export duty on the guayule shrub (\$15 Mex. per ton), while the manufactured product can be brought into the United States duty free. The enterprise is to be operated as the Royal Rubber Co., a corporation registered April 10, 1906, under the laws of Oklahoma. The process to be used, which is mechanical, without employing any chemicals, is covered by a Mexican patent granted to Seth Kirk, May 24, 1906.

THE COTTON MANUFACTURERS MEET.

AT the annual meeting of the National Association of Cotton Manufacturers (Boston, April 24-25) the president, Mr. James B. McColl, in his address, referred to the great and continued prosperity in the United States of the industry which this association represented. He declared that adequate consumption, or at least demand, existed for the employment of every spindle in the country. Although there had been a normal addition during several years past to the number of spindles, the imports of cotton manufactures into the United States had increased last year by \$14,500,000, while exports had decreased \$13,500,000. Yet there had been no evidence of over supply or glutted markets. Extension of foreign trade is for the time ignored on account of the home demand absorbing all the output.

This condition of prosperity was not confined to America. A year ago England's increase of 6,250,000 spindles had been recorded, and now reports show 10,000,000 spindles added or projected within five years. Meanwhile the industry is making progress in other countries. If, said Mr. McColl, from any cause there should be an insufficient demand for the product of England's enormous number of spindles, there might be expected an influx of foreign made goods into this country, at prices below the capacity of our manufacturers to produce. It was important, therefore, for economy of production to be studied to the utmost. The United States had been in the lead in the use of labor-saving machinery, but this condition would not necessarily continue. He quoted reports showing that in England in 1882 5.71 employees were required for 1,000 spindles; in 1893 the number had fallen to 4.86 persons, and to-day $2\frac{1}{2}$ hands per 1,000 spindles is considered a maximum in the more modern mills.

As a means to furthering the interest of the manufacturer, and rendering him capable of withstanding any competition, the speaker was pleased to note a growing tendency toward closer relations and a better understanding with the cotton growers, who now have an organization for mutual interest. The manufacturers' association would hold a meeting at Atlanta in October which, it was hoped, would be helpful in advancing the better understanding referred to and afford a common basis for the discussion of the preparation and marketing of cotton, the question of contracts, and so on.

President McColl felt that the cotton exchanges had a legitimate relation to the trade, and he would like to see an exchange in New England, in which section so large a proportion of the cotton industry has its seat. The establishment of fixed standards of grade and staple and a system of arbitration by sworn classifiers would be of great value to New England spinners. He would like to see developed there the spot feature of the Liverpool market. A concentrated stock of spot cotton in New England, such as always exists in Liverpool, where the English spinner can go at almost any time and find what he needs, would lead to an important economy of money and time.

In a paper on "The Textile School a Necessity to the Future of the Industry" Edward W. France, director of the Philadelphia Textile School, declared that a great scarcity existed in the way of artisan labor spinners, weavers, and machine tenders in general in the cotton industry. Not only were technical schools needed for the training of more and better workmen, but it should be considered that goods were rendered salable by their attractiveness as well as their utility, and the matter of artistic training should be included in the scope of the schools.

The membership of the National Association of Cotton Manufacturers, which is by no means confined to the United States, is divided about equally between those who are interested on the financial side of cotton manufacturing and those who are occupied with the technical side. The work of the association during the year has had to do with perfecting cotton statistics and with the tariff on cotton goods.

ZAKINGUMMI.

A FRENCH patent issued to Zacharias Olsson, of Upsala, Sweden (No. 369,719, application of September 13, 1906), to cover the manufacture of an "artificial caoutchouc," relates to the material referred to in various recent publications as "Zakingummi." According to the specification it is produced by mixing colloid and hygroscopic substances—for instance, glycerine, chlorate of calcium and chlorate of magnesium—with water and neutral substances, in mills, and introducing into the homogeneous mass chrome salts or other substances that exercise an effect on colloids when exposed to the light. Additions of paraffine or mineral or fatty oils are also advantageous. The mass can be colored by additions of ochre, red lead, vermilion and aniline colors as desired.

The inventor is understood to be an apothecary who formerly was employed as a factory chemist. He claims that his product contains no trace of rubber, all its constituents being of vegetable origin and obtainable in Sweden. He claims that for almost all purposes it is a perfect substitute for rubber and that its cost is one-third less than rubber. According to Swedish newspapers experts of standing, including L. Anderson, director of a rubber factory, express skepticism in regard to the invention. They call attention to the fact that samples of "Zakingummi" shown at the Nörrköping exhibition possessed no capacity for resisting moisture, nor could it be used for insulation purposes.

The *Gummi-Zeitung*, after an investigation of a small sample, says that whatever the material may be, "it certainly is not a substitute for rubber." Immersion for a brief period in water causes it to crumble; in a dry condition it is readily divided by the finger nail, and it offers no resistance when operated on with a file. The fact that it is not affected by machine oil, for instance, as certified by the materials testing laboratory of the Royal Swedish Technical High School, does not compensate for the lack of elasticity and resistance to water. The *Gummi-Zeitung* compares this material with the many hardened colloid substances that have been "invented" in Germany, and expresses the opinion that "Zakingummi" will not be found patentable in Germany as a substitute for rubber.

MURAC.

THE name Murac has been given to a commercial product resulting from the treatment, by a new chemical process, of the latex of certain plants of the *Sapotaceae* family, said to be abundant along the Amazon river, in Venezuela and the Guianas, some of the West India islands, Africa, Madagascar, and Australia. These trees are referred to as yielding latex freely, so that the supply is practically inexhaustible. Thus far, however, the new process is understood to have been applied only to balata. Murac is referred to, not as a substitute for india-rubber, but as being serviceable for use in connection with low grade qualities of rubber and bringing them up to a higher standard. Certain rubbers, for example, are mentioned as having been more than doubled in value by the addition of a few pence worth of Murac to a pound in weight of the rubber to be improved. Murac, however, is vulcanizable alone, and may be used for many mechanical purposes, without the employment of other rubber, under treatment similar to that given to gutta-percha. It is also capable of being used in liquid form, particularly for waterproofing. The rights to the new process are owned by The Murac Syndicate, Limited, subsidiary to which is the British Murac Syndicate, Limited, registered in London on March 20, 1907, with £12,500 [= \$60,831] capital, to exploit the material referred to in Great Britain.

MR. R. W. BURGESS, manager of an important rubber plantation in the Malay peninsula, has received permission from the Java government to recruit 500 coolies there to labor on his estate.

Trade Conditions in the Congo.

THE entrance of an American company in the Congo trade marks a new departure in the relations abroad of commercial firms in this country. Large as has been the consumption of india-rubber in the United States—amounting probably to more than half of all the rubber ever produced—the interest of American traders in this commodity has seldom extended to the point of obtaining the raw material from its prime sources. There is to-day, so far as we are informed, no American company or trader concerned in exploiting rubber in the Amazon valley, for instance, or figuring in the trade there in any way other than buying at Pará or Manaós rubber brought into those ports for sale. The business of obtaining rubber from the forests has never appealed to any form of American enterprise, at least not to an important extent.

The rubber fields of Africa have seemed even more remote, and the demand for rubber from that continent has been supplied through purchases made in European markets. The abstention of Americans from the African trade has been due, in part, to the fact that the "Dark Continent" has been exploited only as one portion after another came to be appropriated by the European powers, and as a rule trade in the different colonies has been monopolized by the people of the respective mother countries.

The collection of rubber in the Congo region, therefore, through relations with the natives, will be found a business in which the Americans about to become interested in it will have much to learn. It happens, however, that the American Congo Co.'s shares are held in part by Belgians experienced in this particular field, while the relations with the Congo Free State government give the company all the protection and support that can be granted to any enterprise of like character. The *conseil d'administration* of the American Congo Co. is composed equally of Americans and Belgians. Of the six European members of the board, three have been officers in the Belgian army, involving military service on the Congo, and have held positions in the Free State government. The knowledge which these gentlemen have gained through such experience has led to their being consulted in the planning of commercial enterprises in the Congo basin, and to their becoming interested in company management. The fourth of the Belgian directors is actively engaged in a Congo trading company as manager; the fifth is a barrister

of Brussels, and the sixth is a civil engineer and railway manager.

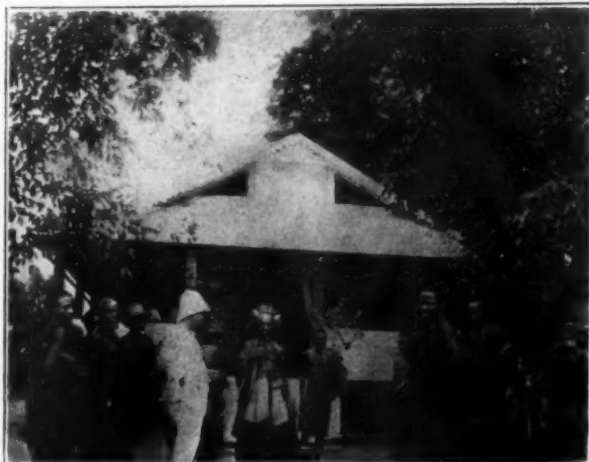
In view of these considerations and the further fact that the projected American enterprises are of a character similar to, and will be located in the same region with, some important and successful Belgian trading companies, the absence of expert knowledge of Africa on the part of the American directors need not necessarily be an element of weakness in the organization of the new business.

The prominence of the capitalists interested in the American Congo Co. and the allied forest and mining company is such as naturally to direct public attention to the proposed operations in a new field, and doubtless will tend to broadening the knowledge of and interest in Congo conditions and affairs among the American people. Assuming that its American leaders will be interested now and then in some of the details of the new sources of rubber which the company above referred to purpose exploiting, THE INDIA RUBBER WORLD has arranged to present occasionally facts and pictures concerned with this subject. A few such pictures are presented in connection with this article. In the Congo Free State, as in most other African regions under European control, the natives must be reached and dealt with through their chiefs, who are permitted to retain in the eyes of their people their traditional power and importance.

It is such native dignitaries that trading companies must take into account at every step. Such an one is the big and powerful Gonzoba Mokoko N'Kuefou, chief of Bankana, on the river Kwango, in the southern part of the area held under concession by the American Congo Co. (see THE INDIA RUBBER WORLD, January 1, 1907—page 106.) In two of the illustrations given herewith Chief Gonzoba is shown surrounded by some of his native gentlemen and ladies in waiting, being received at the trading station of the "Citas" company, on Stanley Pool. It is Gonzoba with whom the new company will have to treat for rubber.

* * *

A RECENT address before the Cercle Africain, of Brussels, by F. Harroy, described as having spent six years on the Congo as a commercial agent, gives some details of the way in which trade is carried on with the natives. In the first place, he said, trading is carried on in the Congo as in Europe—with experience, smart-



CHIEF GONZOBA AT "CITAS."

[The chief is the central figure, with grotesquely dressed hair. Reception by the manager.]



CHIEF GONZOBA AT "CITAS."

[The chief, at right of center, is seated, and surrounded by his men and women in waiting.]



NATIVES DELIVERING RUBBER AT A POST OF THE CIE. DU KASAI.

ness and fairness. In Europe the trader, whatever he may have to sell, secures customers by studying their tastes and requirements, and by trying to give them satisfaction. "In the Congo the native has scarcely any wants; he would prefer never to have any; what we must do is to create wants. To create wants is the difficult task which requires a minute knowledge of the native's nature, his weakness, his customs, habits and language."

In a region not yet opened in any sense to trade the work of finding out its resources and the possibilities for trading must be carried on by tactful and peaceable exploration by experienced agents. The white man is looked upon with suspicion, and the penetration for the first time of the native districts may be even dangerous. What is necessary as a foundation of business is to induce the natives to work—say at getting out rubber—by the allurements of wealth, which, at the outset they pretend they can do without, as idleness is, in their eyes, the acme of happiness.

But to try to deal with the natives singly would require a vast deal of time. The white man addresses himself to a chief. His belongings are shown to the best advantage—his bed, blankets, boxes, tools, cooking utensils, knives and the like, which must be carried by the commercial agent for his own use, together with cloths or ornaments chosen to attract the eye of the natives. The chief has the advantage that if he lacks the means wherewith to buy, he can obtain it by directing his people to go to work. If the chief is led to desire blankets, for example, he learns that so much rubber, which his people can soon learn to prepare, will secure them, and thus is laid the foundation for trade relations. To maintain and extend these absolute fairness in trading is essential.

It is not always easy to agree with the native in fixing the price in rubber of the various articles submitted to him. Such matters cannot be settled arbitrarily. "Every article must be valued not according to what it costs us in Europe, not according to its cost price in Africa, but according to the value which it has in the eyes of the natives so as to please them. It happens that different articles which vary greatly in size and weight and which therefore incur a very unequal cost of carriage, represent the same or practically the same value to us out in Africa." Thus in the eyes of the natives a shirt or two pounds of salt might represent three hens; a fez or a hat, one hen; and two yards of cloth, two hens. Here are three different valuations for classes of goods which have cost the trader the same price. The administration in Europe which sends out goods for sale may insist upon having certain definite returns; the agents on the spot, studying conditions, proceed thus: They sell some articles, which are not much valued at home, at a price surpassing the fixed limit, and sell others which are valued higher at home but are less desired by the natives, at a price which establishes a just proportion in the eyes of the administration.

All of which leads up to the question of the prices paid to the natives for rubber. Mr. Harroy told his audience: "But it ought not to be said: 'You only pay a trifling amount for your rubber'; this is not true. No one can tell without being on the spot what is the real price paid to the native."

* * *

In time trade may expand in such a district as is referred to above until the natives generally will desire to obtain goods from the stations and be found willing to work to acquire them. A third picture in this connection represents the reception of rubber from native gatherers at a trading post of the Compagnie du Kasai, who have now been engaged in business in the Kasai basin for a number of years and are among the principal collectors of rubber in the Congo Free State.

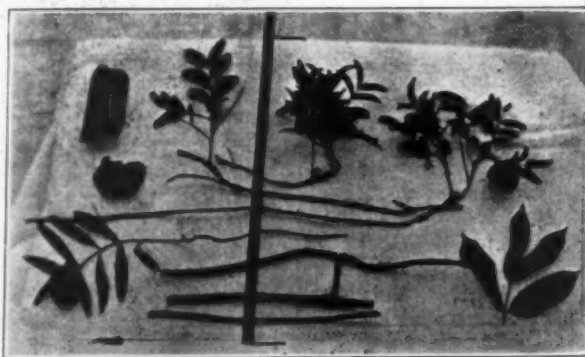
A CONGO "ROOT RUBBER" PLANT.

AN increasing interest is being displayed in the "root rubber" species in the Kwango district of the Congo Free State, especially since the formation of the American Congo Co., whose concession is understood to embrace an abundant supply of the plant known as *Landolphia Thollonii*, which was illustrated and described in THE INDIA RUBBER WORLD May 1, 1903 (page 261).

A correspondent of THE INDIA RUBBER WORLD writing from Kinshasa sends some specimens of rubber prepared by natives of the Kwango district—adjacent to the concession of the American Congo Co.—by methods of their own, and it is good rubber. Our correspondent has analyzed similar specimens with this result: "Rubber, 89 per cent.; resins, 6; ash, 1; vegetable matter, 4 per cent." The American company now becoming interested on the Congo purposes applying to the roots of the *Landolphia Thollonii* the same methods of extracting rubber that have been worked successfully with the guayule plant in Mexico.

Our African correspondent mentions at least two other plants in the Kwango region resembling that named above, and likely to be mistaken for it. One is the *Landolphia humilis*, described as an indifferent rubber producer; the other is entirely worthless. The illustration shows roots of the *Landolphia Thollonii* with the leaves and fruit; also, at the bottom of the picture, on the left and right, leaves of the two other plants.

AN interesting report comes from Mexico regarding experiments made with the *bagasse* which results from the extraction of rubber from guayule shrubs, with a view to its use for fuel. They have been carried on by a chemist of the Continental Rubber Co. at Torreón. At present one-half of the fuel used at the company's extraction plant there is refuse from the guayule shrubs worked up, and it is now being considered whether the refuse in question can be an absolute substitute for coal, which is very expensive in that region.



CONGO "ROOT RUBBER" PLANTS.
[The distance between the two points on the scale is 18 inches.]

Progress of Rubber Culture.

RUBBER PLANTING RESULTS.

THE annual reports to the shareholders of the rubber plantation companies in the Far East, prepared in many cases by persons of long experience in the statistics of plantation work, are beginning to include many details of practical value in relation to rubber culture. For the present, however, these reports are not always as satisfactory as they might be if patterned after a common model, in order to allow for fuller comparison, one with another. Below are presented a few figures from the reports of several Ceylon and Malay States companies now producing rubber.

STATISTICS OF YIELD.

The reports of 14 companies relate to the collection of 328,266 pounds of rubber in 1906 from about 241,415 trees, but details are lacking as to the product of different ages. In a few cases the trees have been tapped for the first time; in others, part of the trees have been tapped one, two and three years previously. The 880 trees on the Golden Hope estate, which yielded an average of 3 pounds, are 8 years old. Some of the young trees included in these reports yielded less than 1/4 pound each. Details for the 14 companies follow:

	Pounds.	Trees.	Average.
Sandycroft Rubber Co.....	16,507	13,046	1.26 pounds.
Pataling Rubber Estates....	43,310	39,336	1.10 pounds.
Bukit Rajah Rubber Co....	33,203	a 33,203	1. pounds.
Kepitigalla Rubber Estates..	42,612	21,500	1.98 pounds.
Yatiantota Tea Co.....	8,790	4,636	1.90 pounds.
Cicely Rubber Estates.....	9,184	6,919	1.32 pounds.
Golden Hope Rubber Estate	2,640	880	3. pounds.
Kalutara Co.....	8,128	4,336	1.87 pounds.
Union Estates Co.....	758	400	1.89 pounds.
Shelford Rubber Estates....	6,808	9,636	.71 pounds.
General Ceylon Tea Estates	10,574	5,924	1.78 pounds.
Blackwater Estate.....	13,033	8,744	1.5 pounds.
Consolidated Malay Rubber	32,693	11,348	2.88 pounds.
Anglo Malay Rubber Co.....	100,019	b 81,500	1.23 pounds.
Total	328,266	241,415	1.36

[a—Estimated. b—This figure represents the number of trees standing, 6 years old or over.]

In several cases the yield exceeded the estimates made in advance. The Seramban company, not named in the table, figured on 35,000 pounds and collected 62,268. The Anglo Malay estimated about 53,000 pounds and collected more than 100,000.

The Highlands and Lowlands Para Rubber Co., Limited, not named in the table, collected 130,365 pounds in 1906. They have 26,023 trees 8 years old and 38,265 from 5 to 6 years. The number actually tapped is not stated.

In most cases figures are not available of the yield of the plantations for 1905, but it can be stated that five estates producing 95,446 pounds in that year had an output of 161,939 pounds in 1906.

PRICES REALIZED.

The prices realized for rubber by the several companies are figured out in averages—fine rubber and scrap not being dealt with separately. The Sandycroft company reports a yield of 12,717 pounds of sheet and 3,461 pounds of scrap, but in general the proportion of scrap is not indicated. The prices realized are not always stated on the same basis. Thus the Seramban company gives the average gross price obtained at Colombo, and the Pataling Rubber Estates net price obtained in London. In a few cases the cost per pound of harvesting and marketing the rubber is given, but in this respect the basis of estimating differs. The figures in this table relate to values expressed in American money:

	Pounds.	Average.	Cost.
General Ceylon Tea Estates.....	10,574	\$1.30 3/4	..
Kalutara Co.....	8,128	1.29 1/3	.18 1/2
Union Estates Co.....	758	1.29 1/3	..
Yatiantota Tea Co.....	8,790	1.29 3/4	.39 1/2
Vogan Tea Co.....	6,077	1.24 3/5	.28 1/5
Eastern Produce and Estates....	22,558	1.31 3/4	..
Ceylon Tea Plantations.....	7,132	1.29 3/4	..
Seramban Estate	62,268	1.14 3/4	.52 1/4
Bukit Rajah Rubber Co.....	33,203	1.31 3/4	..
Pataling Rubber Estates.....	42,898	1.25 1/5	.13
General Ceylon Tea Estates....	10,574	1.30 3/4	..
Blackwater Estate.....	13,033	1.19 1/3	.57 1/2
Clyde Tea Estates.....	1,775	1.23 2/3	.43 1/2
Consolidated Malay Rubber.....	32,693	1.21 1/8	..
Selangor Rubber Co.....	64,885	1.24 2/3	..

It appears to be conceded that the cost of rubber is higher in the Malay States than in Ceylon, though it is hoped to reduce this difference when the labor problem has been better systematized. In most cases the price given as realized for rubber is net—that is, selling costs deducted.

DIVIDENDS.

The Seramban Estate Rubber Co., Limited, for the business year 1906-07 reports profits equal to 27.38 per cent. on the paid in capital, after paying interest, directors' fees, and advances on labor account which are not expected to be recovered. The dividend declared is 24 per cent.

The Pataling Rubber Estates Syndicate, Limited, declared dividends amounting to 40 per cent. for the year.

The Sandycroft Rubber Co., Limited, made net profits equal to \$10,170.37 (gold) and paid 20 per cent. in dividends.

The Consolidated Malay Rubber Estates, Limited, had a net profit of \$32,606, and paid 10 per cent. in dividends.

The Anglo-Malay Rubber Co., Limited, reported profits of £19,599 [= \$95,378.53] and disbursed £18,888 in dividends, amounting to 18 per cent. on the paid up capital.

The Selangor Rubber Co., Limited, reported profits of £13,676 and paid a dividend of 40 per cent.

PLANTING INTERESTS IN MEXICO.

THE president of the Mexican Mutual Planters Co. (Chicago), Mr. George C. Sanborn, reports to the investors in the company a favorable condition of the rubber, coffee and cacao on their "La Junta" plantation, in Vera Cruz. The rubber area is to be brought this year up to 3300 acres. The older rubber, now at six years, embraces many trees of a size which in recent experiments has yielded 3 1/2 ounces of dry rubber at a single tapping.

The latest report of the Isthmus Plantation Association of Mexico (Milwaukee, Wisconsin) shows expenditures to November 30, 1906, of \$447,638.35 (gold). The amounts realized from "side crops" during six years, for the dividend fund, aggregated \$75,914.86. The number of rubber trees planted is 868,141, beginning with 4,681 in 1900. It is expected that 5,000 pounds of rubber will be gathered this season. There are 250,000 coffee trees, and the estimated product this year is 50,000 pounds.

The latest report to the shareholders of the Joliet Tropical Plantation Co. shows expenditures to February 28, 1907, of \$164,222.57. While awaiting the growth of their rubber (in Vera Cruz, Mexico) the company is devoting attention to grazing, among other things, as a source of current profit. There has been disbursed in three years \$10,801.28 in dividends.

The Tolosa Rubber Co., successor to the ill-fated Ubero Plantation Co., of Boston [see THE INDIA RUBBER WORLD, February 1, 1906; page 142], sends out a report showing a favorable condition of the rubber on their plantation in Oaxaca, Mexico—about 136,000 trees. The company reports ample funds up to date for

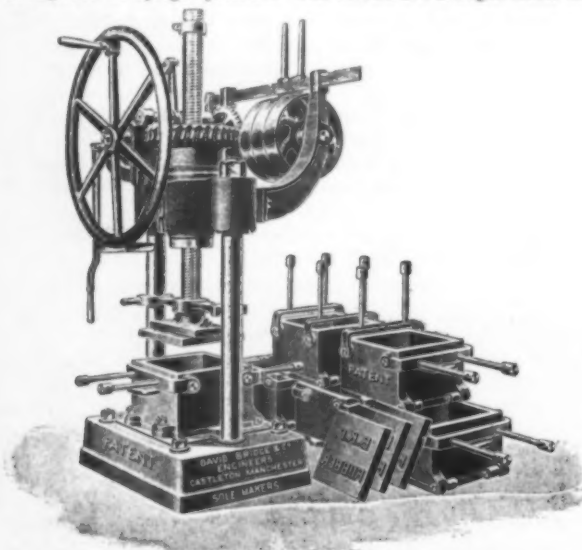
the care of the property, and it is intended to put a superintendent in charge of the property on January 1 next.

Pennsylvania Obispo Plantation Co., incorporated December 14, 1906, under the laws of New Jersey with \$1,200,000 capital authorized, has headquarters at Scottdale, Pa. Their plantation, "Estancia," is located at Playa Vicente, state of Vera Cruz, Mexico. The company is composed of a number of substantial business men in the Pittsburgh district. A. S. Braznell is president, Will B. Jones vice-president, Joseph D. Houston treasurer, and George Frank Kelly secretary. The latter is secretary also of the Pittsburgh Obispo Plantation Co., formed four years ago. Among the directors of the new company is Mr. Maxwell Riddle, whose interest in Mexican rubber culture has been mentioned frequently in these pages.

BRIDGE'S "BLOCK" RUBBER PRESS.

THE undoubted favor with which crude rubber in "block" form has been received by manufacturers has turned attention to the construction of devices for economically putting rubber into this shape. The latest machine for this purpose is illustrated herewith. It consists of a powerful screw fitted with a machine-cut worm wheel, driven by a steel-cut worm by fast and loose pulleys. A reversing motion is arranged for the quick withdrawal of the platen, this being carried on two strong steel columns, bolted to the base. Detachable boxes are used, so that any number may be used with the same press. Each box is fitted with two strong wrought iron bridges, with four powerful screws.

After the crepe rubber has left the vacuum dryer it is pressed into the box, and when it is under pressure the bridges are brought to an upright position. The screws are brought down on



BRIDGE'S BLOCK RUBBER PRESS.

top of a false platen, the corners of which are knocked out, leaving the rubber under pressure, and the main screw is run clear of the box. The latter is then removed from the press and placed on the lower shelf of the vacuum dryer for a period of setting. The bottom of the box, which is hinged, allows the block of rubber finally to be forced out by the four vertical screws.

This press may be fitted with a hand motion, in case of the absence of mechanical power. From 2 to 3 H. P. is sufficient to drive by belt a press turning out blocks 9x11 inches, and $4\frac{1}{2}$ inches thick. The total weight of such a press, with one box, is about 1,900 pounds. A number of these presses are reported to have been supplied to the Mabira Forest (Uganda) Rubber Co., Limited, a company exploiting native rubber in East Africa. The patentees and sole makers are David Bridge & Co., Castleton, Manchester, England.

BELGIAN CAPITAL IN MEXICAN RUBBER.

THE Antwerp company, Société Anonyme Santa Rosa, with a capital of 408,000 francs [= \$78,744], has been formed to succeed Cultuur Maatschappij Santa-Rosa (Mexico), of Amsterdam, now in liquidation. The new company acquires a coffee and tobacco plantation in the Mexican State of Oaxaca, on which are about 50,000 rubber trees (*Castilloa*), a considerable proportion of which are now 8 years old, and all reported to be in fine condition. Experimental tapping has been in progress of late. The company owns some 33,000 hectares [= 92,543 acres] of land, and their rubber is near the plantation of the Batavia Co., of Milwaukee, Wisconsin.

SHIPMENT OF RUBBER FROM TRINIDAD.

THE island of Trinidad, one of the British West Indies, has now reached a stage in rubber production, says the latest *Bulletin* of the botanical department there, where shipments of 1,000 pounds at a time are made. Lots of *Castilloa* sheets have been sold at the rate of 4s. 3d. and 3s. 4d. per pound respectively from two estates, while scrap rubber on one estate has sold for 3s. 3d. per pound [4s. 3d. = \$1.03 1-3, gold].

THE OAXACA RUBBER CO.

THE Oaxaca Rubber Co., formerly a corporation under the laws of New Jersey, was reincorporated in the latter part of February in Maine for the reason that the corporation taxes are lower in that state. The capital stock is \$1,250,000 in \$5 shares. The office of president is now vacant; Joseph T. Elliott is vice-president, William I. Overstreet secretary, and Caleb B. Leach (Middletown, Connecticut) treasurer. The office of the company at present is in Middletown. A recent circular to the shareholders states that there are on the company's estate in Mexico 265,000 rubber trees, and the sale of corn this year is expected to provide funds sufficient for the upkeep of the plantation during the year. There are yet in the treasury 40,000 shares of stock for sale as further funds are needed. This company originally was the Isthmus Rubber Co. The change of name was reported in THE INDIA RUBBER WORLD, October 1, 1905 (page 15).

YIELD OF PLANTED "CASTILLOA."

IN an interesting series of letters in *The Mexican Investor*, headed "A Little Journey by a Rubber Planter," Mr. J. Herbert Foster, of Tula, recounts some results obtained from tapping planted *Castilloa* trees at Soconusco, in the state of Chiapas. Mr. F. A. Quinby, manager of the "Dona Maria" plantation, was found tapping, for the first time, six year old trees, 13,114 of which had yielded 1,126 pounds of dry rubber, an average of about 1.37 ounces. The largest six year old tree, 37 inches in girth, had given 5 ounces. Mr. Quinby expected that when all his trees had been tapped he would have 5,000 pounds of rubber, and he expected to tap them again after six months.

A neighboring planter, Mr. V. S. Smith, began tapping during Mr. Foster's visit, the first 90 trees yielding 17 pounds. Later he wrote to Mr. Foster that 3,600 six year old trees gave 360 pounds of rubber, an average of 1.6 ounces per tree.

Both the planters named "cream" their rubber, to remove the resinous content, though the weight is less than where the rubber is prepared by other methods. They both used a tapping knife patented in Mexico. It is a forged piece of sheet metal with a cutting edge bent to the shape of the letter U, and attached to a straight wooden handle. The operator draws the knife toward him as he works; the U projects an inch below the handle and takes a V shaped chip out of the bark as it is dragged along. A guiding wheel in front of the blade regulates the depth of the cut.

RUBBER PLANTING IN THE CONGO.

THE British foreign office, having undertaken an inquiry in regard to rubber planting in the Congo Free State, announces as the result that the plantations there now contain over 10,000,000 plants, nine-tenths of which are vines, and the remainder trees (*Funtumia elastica*). Formerly the systems of planting varied

with different districts, but since 1904 the law has required the planting of 666 vines per hectare [=260 vines per acre], and from 800 to 1,000 trees per hectare. The oldest plants are now ten years old. There is no record of any plantation rubber produced as yet, owing to the vines being still too young to bleed.

TO PLANT RUBBER ON THE AMAZON.

THE Cie. Agricole et Commerciale du Bas Amazone has been organized in Paris (9, rue Saint Fiacre), with the object principally of engaging in the culture of rubber (*Hevea*) and cacao on the lower Amazon, and, incidentally, to conduct a general import and export trade in that region. The capital is 500,000 francs [=96,500], in 1,000 shares of 500 francs. There are also to be created 1,200 "founder's shares," of which 500 will be allotted *pro rata* to the shareholders and 700 to Paul Le Cointe, a French engineer of 15 years' residence in Brazil, and through whose suggestion the new company has been organized, in consideration of certain services to be rendered by him to the company. Mons. Le Cointe has presented to the Société de Géographie of Paris an exhaustive study on the "Exploitation et Culture du Caoutchouc en Amazonie," to be published in their *Bulletin*, and in which he recommends the systematic production of *Hevea* rubber in Brazil on plantations.

RUBBER PLANTING IN HAITI.

EXPERIMENTS which have been made for several years past in rubber culture in the Republic of Haiti promise favorable results. There was formed in Brussels on February 26, 1901, a company by the name Les Plantations d'Haiti Société Anonyme with a capital of 300,000 francs [=57,900], for the purpose of promoting systematically various forms of agriculture in Haiti. A leading spirit in the enterprise is Fritz Herrmann, of Brussels, who is the head of an important mercantile house with colonial

connections. Being a pioneer enterprise in its field, the work of the company of necessity has been largely experimental, but it has related to a considerable variety of plants, including india-rubber, cacao, kola, vanilla and sugar cane. It is understood that as regards rubber, the company has been most successful with the *Castilloa elastica*, which is said to appear to be admirably suited for the soil and climate there. Besides this species, plantings have been made of *Hevea Brasiliensis*, *Funtumia elastica*, *Ficus elastica* and *Manihot Glaziovii*. Native labor has been employed exclusively, being both cheap and fairly effective. The location of the plantation is at Cap Haitien, and the manager is Mr. A. E. Casse.

THE PASK-HOLLOWAY TAPPING KNIFE.

A RUBBER tapping tool, known as the Pask-Holloway knife, and patented in Ceylon by G. W. Pask, of Kepitigalla estate, Matale, is reported to have been well received by planters. It is described (in the *Ceylon Observer*) as a strongly made iron knife with steel head, one feature being that with the same knife the initial cut as well as the subsequent paring operations can be made. The double cutting edge permits right and left hand cutting to be done, and the paring may be changed from medium to very narrow. The steel head when worn out on one side may be easily reversed, and eventually a new headpiece put in. The cost is referred to as equal to \$1.14, American gold.

BRIEF MENTION.

THE new customs tariff established in British North Borneo [*Official Gazette*, August 1, 1906] provides for an export tax on india-rubber other than cultivated of 10 per cent. *ad valorem*. Cultivated rubber is declared to be free of any export duty.

Samples of rubber from the forests leased by Messrs. Lepper and Pennington from the Natal government and shown at the recent South African Products Exhibition in London, are reported to have been very fine.

Ernest F. Van Dort, of the Technical College of Ceylon, has applied for a patent for an apparatus for testing the elasticity and tensile strength of crude india-rubber—something for which a prize was offered at the late Ceylon Rubber Exhibition, but without being competed for.

In September last the Milan chamber of commerce gave a number of special gold medals to the exhibition authorities to be awarded to the persons or bodies considered most deserving by the different juries. Four were assigned to that of the agricultural section, and it is announced that one of the medals has been awarded to Messrs. Pertile & Co., of Singapore, for their enterprise in connection with the rubber trade. This, and one obtained by the Hon. C. A. Parsons, of turbine fame, are the only two medals that have gone to the British empire, so Singapore may well feel proud of its share.

A recent shipment from Ceylon for Australia embraced 20 cases of *Hevea* rubber stumps.



"MANIHOT GLAZIOVII" IN HAWAII.

Cultivated Plants Photographed at 7 to 10 months, on the estate of The Nahiku Rubber Co., Limited, on the island of Maui. See THE INDIA RUBBER WORLD, August 1, 1906.—page 355.]



FRAMEWORK OF MUD HOUSE FOR LABORERS, RUBBER PLANTATION OF JAMES C. HARVEY, IN MEXICO.

SOURCES OF CRUDE RUBBER.

RUBBER COMING DOWN THE NILE.

THE Nile may never rival the Amazon and Congo rivers as a medium for rubber transportation, but rubber is shipped down the Nile nowadays and is likely to come down that historic stream in larger quantities with the advance of time. This observation is suggested by the work of the Imperial Ethiopian Rubber Co., Limited, registered in London January 9, 1907, to acquire and develop an exclusive concession from Emperor Menelik, for 25 years, to collect rubber in Abyssinia. At a recent meeting of the company it was stated that about 20,000 pounds of rubber per month was being shipped by the company's agents, via Khartoum, down the Nile, with prospects for a steady increase, it having been demonstrated that Abyssinia is really rich in rubber.

The existence of rubber there was not known to the emperor until brought to his notice by Hassib Ydlibi, to whom the concession above referred to was promptly granted. The organization of the Imperial Ethiopian Rubber Co. followed, with a capital of £150,000, and active work has since been in progress, with Mr. Ydlibi as the company's manager in Abyssinia. The species yielding rubber are being studied by Mr. Bryce, a trained botanist. There are *Landolphia* vines in abundance and, it is reported, *Ficus* trees. The company are obliged to do a certain amount of planting and are experimenting with *Funtumia Sapium* and *Ficus* trees.

RUBBER EXPORTS FROM BOLIVIA.

THE exports of rubber from Bolivia are larger than at any time in the past, if we exclude from consideration the Acre district, claimed formerly by Bolivia and now by Brazil. The table herewith gives the exports, by custom houses, for four years past, the Acre district not included later than 1902 (weights in pounds):

	1902.	1903.	1904.	1905.
[Via Manaos]				
El Acre.....pounds.	1,757,510	.....	.....	.....
[Via the Madeira]				
Villa Bella.....	1,512,731	1,493,221	1,829,557	2,236,995
[Via the Pacific]				
La Paz.....	631,288	535,623	848,767	737,726
Pelechuco.....	.....	102,465	.....	110,730
Oruro.....	42,383	542,353	269,394	168,696
[Through Argentina]				
Puerto Suarez.....	238,577	229,796	493,381	456,533
Tarija.....	4,096	2,816	15,382	10,228

Total.....4,186,585 2,906,274 3,456,481 3,720,908

The exports of Bolivian rubber through the port of Mollendo, embraced in the above figures, amounted in 1905 to 891,251 pounds. In 1903 the amount was 691,957 pounds.

THE NATIVE RUBBER OF JAMAICA.

In an article in the *Journal of the Jamaica Agricultural Society* [Vol. XI., page 9] on *Forsteronia floribunda* as a rubber producer, the editor writes: "We have known and watched this plant for a good many years and have often thought that while we were paying so much attention to *Castilloa* and *Hevea*, *Ceara* and *Funtumia*, our own native rubber offered as good prospects in certain situations as those better known rubbers." This climber is known locally as "milk withe" or "rubber withe," the stems of which are generally as thick as a man's wrist, but when old the stems may be 6 inches or more in diameter for a distance of 20 to 30 feet from the ground, then branching into several stems and growing to the tops of trees over 100 feet in height. Such stems, on being cut slightly with a machete, are said to exude latex in great profusion.

LIBERIAN RUBBER MONOPOLY.

THE rubber monopoly in Liberia has been so severely criticized in Europe that The Liberian Rubber Corporation, Limited, holder of the concession for collecting and exporting rubber for 26

years, have given up the monopoly. As compensation for what was paid to the Liberian government for it, and what has been expended by the company in connection with it, the government gives the company a share in the export revenue derived from rubber. The new arrangement has been brought about by Sir Harry H. Johnston, a director in the rubber company. [See THE INDIA RUBBER WORLD, April 1, 1904—page 233; January 1, 1905—page 124; February 1, 1906—pages 146-147.]

AN INQUIRY FROM COLOMBIA.

TO THE EDITOR OF THE INDIA RUBBER WORLD: I wish to know if you are able to put me in communication with any person that may be interested in the extraction of rubber from the milky juice that is obtained from several kinds of trees that we have in the Atrato region. I presume that if I could get a chemical process for extracting this rubber we might have here an industry as interesting as that of preparing guayule rubber in Mexico.

GONZALO ZUNIGA.

Cartagena, Colombia, March 25, 1907.

BRIEF MENTION.

A DECREE imposing an export duty on crude india-rubber became effective in Madagascar on March 15, 1907, the rate being 40 centimes per kilogram [= 3½ cents per pound].

The director of forestry of the Philippine Islands reports that government dues were collected on 40,656 kilograms [= 89,443 pounds] of gutta-percha during the year ended June 30, 1906. The exports of gutta-percha during the calendar year 1905 amounted to 50,899 pounds, of which none went to the United States. The declared value was \$4,782, or an average of 9.4 cents per pound. Rubber exports amounted to 281 pounds, valued at \$93.

NEW TRADE PUBLICATIONS.

DAVID MOSELEY & SONS, LIMITED (Manchester, England), in their Price List of Motor Tires for 1907, describe their leading styles of tires, and also rims, tubes, and non skid covers, and the Moseley tire gage. [9" X 5½". 70 pages.]

THE GARLOCK PACKING Co. (Palmyra, New York) have begun the publication, as a means of keeping the trade informed periodically about the company's packings, of a breezy little paper called *The Garlock Record*. It is issued from their Philadelphia office. [11½" X 9". 16 pages.]

INDIANA RUBBER AND INSULATED WIRE Co. (Jonesboro, Indiana) issue a catalogue of their "Paranite" and "Peerless" rubber covered wires and cables, together with some useful data in the shape of specifications and measurements of wires and their capacity. [4½" X 7½". 48 pages.]

PENNSYLVANIA RUBBER Co. (Jeannette, Pa.) send out an attractive book of views, in color, of specimens of their Interlocking Rubber Tiling for various purposes. [7¾" X 9¼". 26 pages.]

JENKINS BROTHERS (New York) in their 1907 catalogue and price list of Valves, Packing, and Discs devote considerable space to the Jenkins Brothers Rubber Specialties, to the list of which they have of late made several additions. [6" X 9". 128 pages.]

GEORGE F. LUFFERY, JR. (Elizabeth, New Jersey) issues a booklet on Rubber Substitutes, golden and crimson substitutes of anti-mony, and their application in the manufacture of rubber goods. In addition to descriptions of the various ingredients named, suggestions are offered regarding the compounds—as for mechanical goods, sundries, and hard rubber—for which each is more especially suited. [6½" X 8¼". 16 pages.]

ALSO RECEIVED.

THE Faultless Rubber Co., Ashland, Ohio—Cloth Lined Rubber Goods. 4 pages.

Allen Manufacturing Co., Toledo, Ohio.—Science and the Bath, Allen Bath System. 16 pages.

Western Electric Co., Chicago.—Hawthorne Works, for the Manufacture of Power Apparatus. 24 pages.

THE EDITOR'S BOOK TABLE.

LE CAOUTCHOUC DANS L'AFRIQUE OCCIDENTALE FRANCAISE. Par Yves Henry, Inspecteur d'Agriculture. Paris: Augustin Challanel. 1907. [Paper. 8vo. Pp. 239+16 plates+charts and map. Price, 9 francs.]

THIS is a semi official work, prepared by Mons. Henry, inspector of agriculture for French West Africa, primarily as an exhibit at the French Colonial Exposition at Marseilles last autumn. The first part of the book details the history of the crude rubber trade in the five colonies under the administration of the governor general of French West Africa, with statistics of production, prices, etc., year by year. Not only this, but the rubber is followed to its destination, and the selling systems at Liverpool, Bordeaux, Antwerp, and other markets described. The second part of the work is devoted to the colonial regulations of February 1, 1905. These relate to (1) repression of fraud in the preparation of rubber, (2) conservation of native rubber plants, (3) the planting of rubber, and (4) the education of the natives in methods of tapping trees and preparing the rubber for market. In the concluding chapter it is pointed out that satisfactory results have been attained in each of these respects. The rubber training schools are of particular interest, and their introduction into other French colonies was recommended by the Marseilles Colonial Congress. There are a number of good illustrations of trading stations and of rubber yielding species.

QUESTION CONGOLAISE. LA COMPAGNIE DU KASAI A SES Actionnaires. Réponse à ses Détracteurs. Bruxelles: 1906. [Paper. 8vo. Pp. 100+2 maps.]

THIS statement, by the directors of an important rubber trading company to its shareholders, in response to charges affecting its treatment of the natives within its sphere of influence, forms a most interesting contribution to the subject of conditions on the Congo. As for the attacks upon the company, they have been of the general character of those against the Congo administration, and not against the "Kasai trust" in particular. The reply is, of course, simple assertion on the part of one of the attacked parties, and discussion of the details involved does not belong to the scope of this journal. But the facts regarding the objects, plan, and working of the Kasai company, formed December 24, 1901, by the merger of fourteen *concessionnaire* companies trading in the Kasai basin, is of interest, since the statements are official and more comprehensive than anything published hitherto regarding any Congo trading concern.

The vast territory controlled embraces the upper Kasai and its tributaries, extending down that stream almost to the concession of the American Congo Co. Its headquarters are at Dima, near the mouth of the river. The capital is 1,005,000 francs [= \$193,965], in 4020 shares of 250 francs, in connection with which exist an equal number of shares "without designation of value," of the nature of "common stock." Half of all the shares are held by the Congo Free State.

The book before us points out that the Kasai company has steadily pushed forward the development of its territory, increasing its production, and tending to better the condition of the natives. There has been a constant increase in the number of trading posts, an improvement in the quality of rubber, and better business management, all of which compares favorably with the conditions existing when fourteen companies formerly worked independently. We must note the interest taken by the company in forming plantations of rubber, in addition to the planting required by law. The net profits for the four years for which accounts have been completed have been:

In 1902.....	1,210,706.23 francs	[= \$233,666.26]
In 1903.....	3,497,393.01 francs	[= 677,996.85]
In 1904.....	5,334,797.06 francs	[= 1,029,615.82]
In 1905.....	7,543,084.98 francs	[= 1,455,885.40]

It will thus be seen that the net profits in one year were more than seven times the amount of capital stated. After allowing 15 per cent on the capital shares there will be available, for the past

year, 1500 francs per share of the "common stock" (which cost nothing), and a recent Brussels Stock Exchange quotation for these shares was 16,600 francs [= \$3203.80]. No doubt the shareholders will be easily satisfied with the company's defense.

The rubber arrivals at Antwerp credited to this company in THE INDIA RUBBER WORLD have been 815 tons in 1903; 910 tons in 1904; 1209 tons in 1905; and 1075 tons in 1906. A series of excellent pictures in this book illustrates the work of gathering and bringing in this rubber by the Kasai natives.

THE FAR EASTERN TROPICS. STUDIES IN THE ADMINISTRATION OF TROPICAL DEPENDENCIES. By Alleyne Ireland, F.R.G.S. Boston: Houghton, Mifflin & Co. [Cloth. 8vo. Pp. xi+339. Price, \$2, net.]

THE question of dealing with some tropical dependency or other confronts every great power to-day, and no governmental problem is more difficult to deal with. It is not a matter that can be set aside lightly, since, if there were no other reason for the existence of these colonies there must needs be commerce between the torrid and temperate zones; it seems inevitable that this should be controlled by the people of the colder climates, and this involves ultimate political control. Not that Mr. Ireland propounds any such theory, but it is suggested by the reading of his book, which is a careful study by a trained observer who has spent much time in the regions whose people and institutions he describes. If we were to point out a practical illustration of the importance to Western civilization of the problems our author has studied it might be mentioned that india-rubber, which has become one of the world's necessities, is largely produced in countries which are not self governing. In order to bring about such closer relations with the tropics as will facilitate the obtaining of rubber it is necessary that there should be, in many cases, better methods of colonial administration. This calls for a better mutual understanding between the "home" powers and the colonies, and to this end Mr. Ireland's work is a notable contribution, so far as readers at "home" are concerned. All the Far Eastern countries treated by him are producers of rubber, though of course he does not deal in any way with the rubber question. He only helps us to understand those parts of the world whence an important commodity comes.

ROYAL BOTANIC GARDENS, KEW. BULLETIN OF MISCELLANEOUS INFORMATION. Additional Series, VII. Selected Papers from the Kew Bulletin. III.—Rubber. London: His Majesty's Stationery Office. 1906. [Boards. 8vo. Pp. iv+187. Price, 1 shilling 6 pence.]

THE staff at Kew has rendered the rubber interest a distinct service in the scientific study of rubber yielding species. It might justly claim credit, for example, for the introduction of *Hevea* rubber into the Far East, and for otherwise stimulating the rubber culture. For nearly a score of years its *Bulletin* has contained articles of value relating to rubber, and especially the botany of rubber, an interesting selection of which appears in this volume.

RUBBER PLANTING IN THE REPUBLIC OF PANAMA. BY JIL F. Sanchez. Panama: Chevalier, Andrews & Cia. [Paper. 12mo. Pp. viii+36+plates.]

THE author of this brochure mentions his experience in connection with a considerable plantation of rubber owned by a mining company on the isthmus of Darien, where his observations convinced him of the possibilities of this new planting interest. He gives some estimates of planting cost and profits, with a number of illustrations from photographs. The booklet is printed in English and Spanish.

MEXICO'S TREASURE HOUSE (GUANAJUATO). AN ILLUSTRATED AND DESCRIPTIVE ACCOUNT OF THE MINES AND THEIR OPERATIONS IN 1906. By Percy F. Martin, F. R. G. S. New York: The Cheltenham Press. 1906. [Cloth. 8vo. Pp. 259+vi+maps and plates.]

THIS work, though devoted to describing a gold and silver mining region of marvelous richness, gives the reader incidentally no little information regarding Mexico in general, and in particular to a region adjacent to the States which lately have come into prominence as producers of guayule rubber. The book is capably written, and the publishers have brought it out in sumptuous form.

New Rubber Goods in the Market.

NEW "DUPLEX" FOLDABLES.

THE fishing creel illustrated on this page is $10\frac{1}{2}$ inches in length, 5 inches in width, and $7\frac{1}{2}$ inches in depth when open; folded, it is $7\times6\frac{1}{2}\times2\frac{1}{2}$, a reduction that is quite worth while considering as lessening the burden of a day's sport. These canvas, waterproofed creels, to take the place of the willow trout baskets, can be carried in the tackle case and so be entirely out of the way when not in use. Even when filled with "speckled beauties" they are not so clumsy as a basket; besides

they can be kept clean with much less trouble. It is a matter of a moment only to scald and cleanse them and they are this way kept always free from odor. By means of metal eyelets inserted in the sides and bottom, air cooling is secured, and these and all other metal parts are of spring steel and rust-proof. All have shoulder straps and the cover fastens with straps and flat pull down hooks. They are quite as good for small



DUPLEX FISHING CREEL, OPEN AND CLOSED.



DUPLEX AUTO FUNNEL, OPEN AND CLOSED.

game, alive or dead. The "Duplex," as they are called, have been termed "cool, practical, portable, washable, waterproof and weatherproof."

The second illustration relates to a collapsible funnel for use by automobilists. It comes in a convenient size, $7\frac{1}{2}$ inches in diameter and $5\frac{1}{2}$ inches in depth. It folds into $7\frac{1}{2}\times3\frac{1}{2}\times1\frac{1}{2}$. The funnel is made of canvas lined with a special material that is proof against alcohol, gasoline, kerosene, or naphtha, and is equally good for water. Where a tank in auto boats is set over two inches below the casing, a small piece of rubber pipe should be cut to the desired length and attached to the funnel nozzle. The funnel strainer separates the water from the gasoline and prevents chips, straws or dust from passing through the funnel. These goods are made by the [Duplex Folding Pail Co., No. 420 West Fourteenth street, New York.]

"VICTOR" FELT TREAD INNER TUBE.

A PUNCTURE proof and blowout proof tire seems something too good to be true, but that is just what is claimed for the "Victor" inner tube. The tube is divided by a rubber partition, and the

space between the tread surface and the partition is filled with felt. This simple little felt-filled chamber, it is said, has solved the great question that has been worrying every automobile owner. At any rate the manufacturers offer a guarantee with each tube. The tube is referred to as fitting any automobile tire, so that no changes are needed in placing it. It will be seen that with this the need for carry-



"VICTOR" FELT TREAD INNER TUBE.

ing extra inner tubes or casings is removed. [The Victor Auto Tire Repair Co., No. 220 Madison street, Passaic, New Jersey.]

THE TRAVER BLOWOUT PATCH.

THE Traver Patent Blowout Patch bids for popularity in that it does not require cement, straps, lacing, or bolts, as it locks on the rim with the shoe and cannot creep. This makes the matter of applying it an easy procedure, unattended by the dread of long, tedious, and even arduous work involved in many methods of repairing. It also has the value of permanency as it fits inside the shoe and will keep in position as long as the shoe lasts. A rim cut which seems almost to defy road repairing gives way to the



TRAVER BLOWOUT PATCH.

healing of the Traver quite as readily as the blowout yields to its efficacy. A shoe that has been worn to the danger point is made safe and serviceable if the patch is used before a blowout does occur, as the patch builds up the weak spots, relieves the shoe from pressure of the inner tube, and saves the inner tube when the shoe does give out. The Traver patch is made of Sea Island cotton, covered with rubber vulcanized by the slow live steam process and made flexible on the sides and ends so as not to chafe the inner tube. [Traver Blowout Patch Co., No. 1265 Broadway, New York.]

PNEUMATIC CUSHION RUBBER HEEL.

THE illustration shows the principle on which is constructed the Pneumatic Cushion Rubber Heel, for "Juliets," "Oxfords" and old ladies' "Balmors." There is a suction chamber and a



PNEUMATIC CUSHION RUBBER HEEL.

diaphragm, which prevents slipping, and from which snow and dirt are expelled by the compressed air chamber. Their lightness of weight makes them especially adapted for use on women's shoes, and they have a large sale on this account for house shoes. They are made in black and will not bloom. [Pneumatic Cushion Rubber Heel Co., No. 19 Lincoln street, Boston.]

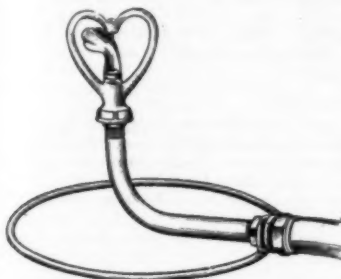
SANITARY WRAPPER TABLE CLOTH.

No greater advance along any line has been made in the past few decades than that shown in improved methods of sanitation in municipalities, in home life, in manufactories and in every department of manufacture where improvement conduces to the health of the consumer. Among the later simple yet significant advances is that illustrated by the manufacture of cigar-makers' sanitary wrapper table cloth. This is made in two grades

of cloth, some coated on one side and some on both sides with rubber, and is designed for years of wear. The use of this new article does away with the old wrapper cloth, that was at best not clean, and in its place substitutes an airproof and waterproof cloth which prevents the drying out of tobacco, and also prevents its becoming too wet. [Henry Miller & Son, Milwaukee, Wisconsin.]

"TURBINE" LAWN SPRINKLER.

AMONG the new lawn sprinklers that have been placed on the market this year the "Turbine" seems worthy of special mention. It is what might be called an all around adjustable sprinkler, so



TURBINE LAWN SPRINKLER.

adaptable is it to various conditions. The elbow can be turned to point at any angle, so that the sprinkler can be used on a side hill placed next to the sidewalk, and the spray turned in another direction. It can also be used as a nozzle holder by unscrewing the butterfly sprinkler on the top and attaching to the ell on spray nozzles.

The manufacturers, who have added several other desirable new types of lawn sprinklers to their list of late, are W. D. Allen Manufacturing Co., Chicago.

ONE BUCKLE LUMBERMAN'S SHOE.

IN the design of this overshoe several improvements have been made, with a view to enhancing the original purpose for which lumbermen's shoes were intended—that of providing the best protection with the utmost simplicity of construction. In the new design the upper at the back extends quite a good bit higher, adding solidity there and also more support to the pocket. This allows the shoe to fit closer over instep and around the ankle, and prevents snow from getting between shoe and sock. The increased height of the upper reduces the size of the pocket, at the same time lessening the seams and preventing liability of breaking. These shoes are made in men's, boys' and youths' sizes and in three qualities. [The Merchants' Rubber Co., Limited, Berlin, Ontario.]



ONE BUCKLE LUMBERMAN'S SHOE.

CAMP MATTRESSES.

THE "Outing" mattress here illustrated is light, the two sizes weighing but 10 and 12 pounds, respectively, the former being 75x25 inches and the latter 75x30 inches. The covering is of a fine quality of brown duck, both texture and color showing the best possible choice in so far as dirt resisting and dirt showing features



THE "OUTING" MATTRESS.

are concerned, while the question of wear is also shown to have entered into the choice. The pump, which is a necessary part of the outfit, as these are air mattresses, is light and easy to carry, the weight being something like one pound. It is but the work of a moment to inflate them, and then the tired camper has the most comfortable of beds, which for the next day's tramp can be made into a compact bundle. [Metropolitan Air Goods Co., Reading, Massachusetts.]

BAILEY'S NEW RUBBER STOPPER.

A TROUBLE that has been experienced with india-rubber stoppers for bottles is that they cannot always be depended upon to stay in place. The object of a new design in stoppers illustrated here



BAILEY'S RECESSED RUBBER STOPPER.

is to render the conical surface of the stopper softer or more flexible, so that it may conform more closely to the interior of the bottle neck, and thereby be more apt to stay in position. The stopper is provided with several rows of small pockets, as shown in the drawing, except that the inventor has decided, since the illustration was made, to substitute oval-shaped recesses or pockets for round ones, the new shape tending to make the stopper more easily compressible. A second result of the use of these recesses is that by confining a certain amount of air they further tend to prevent the expulsion of the stopper. The inventor is Charles J. Bailey (Boston), to whom United States patent No. 851,212 has been granted, under the date of April 23, 1907.

ELECTRIC HEATING PADS.

AMONG the many modern applications of electricity are its uses in the sickroom. One of its functions there is to aid in the alleviation of pain, and this it does effectually when the application of the electric heating pad is resorted to. The pad consists of a section of lamb's wool blanket that can reach and maintain permanently a temperature of 180° F., and no more, or that can be controlled to a lower point at will. An outer removable covering of eiderdown and an inner removable covering of muslin render the pads perfectly sanitary. They are provided with a long, flexible conductor cord and plug for quickly connecting them to the fixture, and they are also furnished with a switch to turn them on or off in bed, and a heat controlling device. The cost of operating them is slight, their original cost is reasonable, and they last indefinitely. What is of special interest here is that rubber covers are supplied for these pads when desired, and many of this style are marketed, having the outward appearance somewhat of rubber hot water bottles. [Simplex Electric Heating Co., Cambridge, Massachusetts.]



ELECTRIC HEATING PAD.

FANCY RUBBER BALLS.

FANCY rubber balls for children figure prominently among the various lines of goods manufactured by The Hanover Rubber Co. The variety of designs is hardly short of bewildering. The vivid colorings, the imitations of fruit, etc., the jolly pictures from which fancy can weave many stories to please the childish curiosity, the suggestions of well known and as well loved fairy tales, all serve to amuse, as well as does the ball itself. The fairy tale design, "Nubia" design, fruit design, flower design, and Dutch children are a few of the many from which to choose. One of the best things about these fancy balls is the fact that they are done in water-colors and are guaranteed to be non injurious. They are made from 1¼ to 10 inches in diameter. [George Borgfeldt & Co., Nos. 48-50 West Fourth street, New York, sole agents for the United States and the Dominion of Canada.]

Recent Patents Relating to Rubber.

UNITED STATES OF AMERICA.

ISSUED APRIL 2, 1907.

- N**O. 848,745. Tire for vehicles. [A rim with transverse slots, the tire having a rubber base harder than the tread; projections from the base of the tire fit into slots in the rim.] J. E. Hopkinson, West Drayton, England.
- 848,769. Storm front for vehicles. H. D. Pursell, Washington Court House, Ohio.
- 848,770. Cushion sole [for shoes, with waterproof lining]. H. A. Roberts, assignor of one-half to F. J. Nelson, both of Hornellsville, N. Y.
- 848,778. Hose. W. W. Spadone, New York city, assignor to The Gutta Percha and Rubber Mfg. Co.
- 848,799. Interchangeable heel for boots and shoes. R. Barnes, Fitzroy, Victoria.
- 848,807. Process of making rubber footwear. [Uncoated pieces of textile material are united to form a lining for the shoe, to which an outer covering of pieces of rubber compound is applied. The two surfaces are subjected to pressure, the compound being vulcanized and forced into the pores of the lining.] M. C. Clark, assignor to Marvel Rubber Co., Providence, R. I.
- 848,821. Wading boot. O. F. Glidden, Grand Rapids, Michigan.
- 848,973. Brush [with elastic teeth]. O. Crittenden, Akron, Ohio.
- 848,995. Spray nozzle. A. B. Hull, assignor to Friend Mfg. Co., both of Gosport, N. Y.
- 849,049. Pneumatic tire. L. N. Cates, St. Louis.
- 849,062. Vehicle wheel [with resilient tire formed of a canvas tube filled with fungous material and provided with a rubber tread]. C. A. Gauld, Hamilton, Ontario.
- 849,227. Bicycle pump. A. Genelly and B. Gilberti, Los Buenos, Cal.

ISSUED APRIL 9, 1907.

- 849,368. Electrically heated hot water bottle. H. W. Christian, Toledo, Ohio.
- 849,374. Vehicle wheel [with resilient (spring) spokes, and tread surface of rubber]. A. A. Daugherty, New York city.
- 849,438. Pneumatic tire protector. E. I. Tennant, Springfield, Ohio.
- 849,572. Process of making playing balls. F. H. Richards, Hartford, Conn.
- 849,592. Elastic tire. [Springs are arranged within the periphery of a solid rubber tread surface.] Samuel and Rose Basch, London, England.
- 849,600. Golf ball marker. J. C. Cory, New York city.
- 849,729. Tire for vehicles. [Tread portion in combination with metal ferrules and a plug or filling in the ferrules.] Wilmer Dunbar, Akron, Ohio.
- 849,805. Anti-slipping device for automobiles. E. Nye and A. Grunbeck, Charlotte, Mich.
- 850,001. Packing. [For pistons; comprising a ring having a diagonal split and provided with a seat integral on the inside of the ring and extending in the direction of the split at the latter, a spreader for triangular in cross section and extending with its sides into the split, and a spring held on the seat and engaging the base of the spreader bar to force the latter outward.] S. Holmes, New York city.
- *851,960. Process for manufacturing elastic fillings for tires. Fritz Pleumer, Dresden, Germany.

Trade Marks.

- 11,991. The Miller Mfg. Co., Akron, Ohio. A leaf on which is the word *Protection*. For seamless rubber gloves and mittens.
- 19,040. John T. Nolde, St. Louis. Monogram *J. T. N.* For gutta-percha canal points, rubber dam clamps, dental rubber, etc.
- 25,722. Joseph Dixon Crucible Co., Jersey City, N. J. The word *Dixon's*. For pencils.
- 25,827. The Garlock Packing Co., Palmyra, N. Y. The words *Get Wise*, on either side of the picture of an owl. For sheet packing.
- 25,835. The Narraw Fabric Corporation, Orange, Conn. For elastic webbing.
- 25,949. The Flak Rubber Co., Chicopee Falls, Mass. The words *New Departure*. For pneumatic tires.
- 25,975. Hood Rubber Co., Boston. The word *Shipper*. For rubber boots and shoes.

ISSUED APRIL 16, 1907.

- 850,128. Pneumatic knee boot for horses. R. C. Bever, Worcester, Mass.
- 850,156. Resilient attaching means for rubber heels [involving a bowed spring plate]. A. B. Heimbach, Duluth, Minn.
- 850,253. Process of making playing balls. F. H. Richards, Hartford, Conn.
- 850,281. Bandage. Jeanne Walker, New York city.
- 850,321. Tire armor. C. A. Schlachter, Rockwell City, Iowa.
- 850,327. Pneumatic tread for boots and shoes. Isidor Tauber, Vienna, Austria.
- 850,337. Tool for dressing, shaping and cleaning rubber erasers. G. H. Blakesley, assignor to The Blakesley Novelty Co., both of Bristol, Conn.

- 850,485. Apparatus for producing rubber strips. J. F. Ott, Orange, N. J., assignor to Edison Storage Battery Co., West Orange, N. J.
- 850,488. Protector for rubber tires. J. A. Posey, assignor of one-third each to W. W. Major and H. H. Posey, all of Midlothian, Texas.
- 850,603. Slipper for soaking the feet. [The combination of an elastic waterproof body large enough to provide a space about the foot, with an elastic ankle portion provided with ribs adapted to closely contact with the ankle.] G. Reiter, Pleasant Ridge, Ohio.
- 850,706. Means for inflating pneumatic tires. A. A. Withers, Balacava, Victoria.
- 850,747. Manufacture and application of rubber tires to wheel rims. I. W. Giles, New Bedford, and C. W. Tobey, Fairhaven, Mass.
- 850,748. Rubber tire fastener. *Same*.

Trade Marks.

- 21,087. Continental Caoutchouc- und Guttapercha-Compagnie, Hanover, Germany. The words *Continental Caoutchouc- und Guttapercha-Compagnie*. For india-rubber tires, solid and pneumatic, and india-rubber cover bandages, plasters, patches, and repair sheets for tires.
- 25,737. Hewitt Rubber Co., Buffalo, N. Y. Picture of a section of hose. For air brake hose.
- 26,007. Goodyear Rubber Co., New York city. The word *Badger*. For rubber boots and shoes.

ISSUED APRIL 23, 1907.

- 850,909. Nozzle for pneumatic carpet cleaning apparatus. R. E. Diserens, Bradford, Pa.
- 850,956. Pneumatic tire. G. L. McQuigg, Flint, Mich.
- 851,212. India-rubber stopper for bottles. [Illustrated elsewhere in this Journal.] C. J. Bailey, Boston.
- 851,243. Horseshoe [with rubber pad]. C. Manley, New York city.
- 851,256. Eraser shield. H. I. Seddon, Syracuse, N. Y.
- 851,263. Atomizer. J. Waldman, New York city.
- 851,487. Air ship. [Involves gas bag.] T. S. Baldwin, San Francisco.
- 851,530. Vaginal douche. E. J. Lamport, Cape Town, Cape Colony.
- 851,550. Tooth brush guard. J. C. Nevius, assignor of one-half to Standard Rubber Co., both of Trenton, N. J.
- 851,562. Spraying nozzle. J. H. Ruff, Hollywood, Cal.
- 851,585. Resilient tire for motor car and similar wheels. C. Burnett, Durham, England.
- 851,603. Hose nozzle. J. A. Long, Portland, Oregon.

Trade Marks.

- 5,153. American Hard Rubber Co., New York city. The word *Samsolm*. For electrical insulating material.
- 17,025. Wm. H. Walker & Co., Buffalo, N. Y. The head of a buffalo in a diamond, about which are the words *Supreme Quality Buffalo Brand*. For rubber boots and shoes.
- 23,048. Alfred B. Jenkins, New York city and Elizabeth, N. J. The word *Jenkins* in a single diamond-shaped outline, underneath which are the words *Jenkins Bros.*, in facsimile. For rubber packing.
- 25,727. Henry B. Cabot and Helen N. Cabot, Boston, executors of Samuel Cabot. The word *Cabot's* in semi-circular arrangement. For lamp-black, wood and shingle stains, etc.

ISSUED APRIL 30, 1907.

- 851,653. Hose clamp. H. E. Crandall, Salamanca, N. Y.
- 851,689. Motor driven vehicle [with reserve rim supporting devices]. A. I. McMurtry, New York city.
- 851,740. Life belt. [Inflatable.] A. Gareis and Emily Gareis, Vienna, Austria.
- 851,747. Process of drying electric cables. W. E. Hale, Mexico, Mexico, assignor to Western Electric Co., Chicago.
- 851,781. Manufacture of dust caps for tire valves and the like. M. C. Schweinert, West Hoboken, N. J., and H. P. Kraft, New York city.
- 851,782. Toy [with compressible bulb]. J. Sosa, New York city.
- 851,857. Anti-skidding device. J. M. M. Blanchard, New York city.
- 851,899. Vehicle tire [with leather cover and studded tread]. D. R. and O. D. Salisbury—D. R. Salisbury for himself and as guardian for O. D. Salisbury, assignor to Salisbury Tire Co., all of Owosso, Mich.
- 851,996. Hose clamp. L. Palmer and A. L. Taylor, Harrisburg, Pa.
- 852,002. Elastic tire for wheels. W. R. Smith, assignor of one-half to H. H. Hewitt, both of Buffalo, N. Y.
- 852,110. Vaginal syringe. D. O. Fosgate, Chicago.
- 852,113. Tire repair and protective device. C. D. Gilman, Oakland, Cal.
- 852,130. Process of making rubber articles. [Relates particularly to the formation of vehicle tires, by placing hollow bodies of yielding material, each containing a gas-producing agent, into an unvulcanized rubber tire or cover, and then subjecting the whole to heat, so as to vulcanize the cover and expand the gas-producing agent in said bodies.] Frank A. Magowan, New York city.
- 852,150. Pressure regulator. F. E. Whitney, Melrose, Mass.

- 852,154. Syringe [discharge nozzle]. M. Bariffi, New York city.
 852,178. Detachable heel. J. Greenstein and J. Leonitzky, New York city.
 852,191. Eraser for typewriters. E. C. McFadden, Short Hills, N. J.
 852,198. Lining for pneumatic tires and other pneumatic articles. F. Petmecky, Austin, Texas.
 852,237. Fastening of hose pipes to pipe ends. C. Nielsen, Copenhagen, Denmark.
 852,273. Elastic cob. M. Hess, Munich, Germany.
 852,326. Apparatus for repairing pneumatic tires. F. L. Harley, Quakertown, Pa.

Trade Marks.

- 21,819. Continental Rubber Co., New York city. Picture of guayule shrub. For rubber gums, raw rubber and substitute therefor, and the plants from which such gums are derived, prepared for shipment.
 21,820. Continental Rubber Co., New York city. Lightly outlined circle with the word *Circle* at the bottom, outside. For rubber gums, etc.
 21,821. Continental Rubber Co., New York city. Guayule shrub enclosed in a circle, below which are the words *Circle Brand*, and these words are in turn enclosed in another circle. For rubber gums, etc.
 21,822. Continental Rubber Co., New York city. An outlined circle, below which are the words *Circle Brand*, the words being enclosed in another circle. For rubber gums, etc.
 21,823. Continental Rubber Co., New York city. The letters *C. M. R. Co.* For rubber gums, etc.
 25,281. Standard Asphalt and Rubber Co., New York and Chicago. Black diamond background with the word *Sarco* in white letters thereon. For paving, roofing, and building asphalt, asphalt filler, asphalt mastic, and asphalt matrix.
 25,282. Standard Asphalt and Rubber Co., New York and Chicago. Black diamond background with the word *Sarco* in white letters. For mineral rubber and asphaltic insulation material.
 25,725. Henry B. Cabot and Helen N. Cabot, Boston. The word *Cabot's*. For builders' sheathing and mortar-coloring.
 26,006. Goodyear Rubber Co., New York city. The words *Crack Proof*. For rubber boots and shoes.
 26,437. Rubberhide Co., Boston. The word *Ezoa*. For rubber boots and shoes.
 26,473. The Hartford Rubber Works Co., Hartford, Conn. Two hands placed side by side, the palms outward. For rubber wheel tires. [The widely known Dunlop tire trade mark; the American Dunlop rights are owned by the company named above.]

[NOTE.—Printed copies of specifications of United States patents may be obtained from THE INDIA RUBBER WORLD office at 10 cents each, postpaid.]

GREAT BRITAIN AND IRELAND.

PATENT SPECIFICATIONS PUBLISHED.

The number given is that assigned to the Patent at the filing of the Application, which in the case of those listed below was in 1905.

*Denotes Patents for American Inventions.

[ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, MARCH 27, 1907.]

- 24,848 (1905). Spring wheel with two or more rims or tires side by side. H. F. Broadhurst, London.
 24,952 (1905). Metal stud for pneumatic tire cover. G. F. Deschets, Paris, France.
 25,058 (1905). Electric cable. Land- und Seekabelwerke A.-G., Cologne-Nippes, Germany.
 25,092 (1905). Boots. [Leather covers used to prevent moisture from entering through elastic gussets.] J. Botsch, Würzburg, Bavaria.
 *25,140 (1905). Solid rubber tire. A. H. Marks, Akron, Ohio.
 25,261 (1905). Method of coagulating latex from rubber trees after it has been mixed with vulcanizing agents. A. G. Bloxham, London. (M. Kelway Bamber, Laboratory, Colombo, Ceylon.)
 25,323 (1905). Eraser holder, of metal or celluloid. J. R. Bell, Talporley, Cheshire.
 25,325 (1905). Tire. [Solid rubber, vulcanized or keyed to metallic base.] J. W. O. Walker and W. Murphy, Pendleton, Manchester.
 25,382 (1905). Pneumatic tire. E. Deleamont, Paris, France.
 [ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, APRIL 4, 1907.]
 24,435 (1905). Tire. [Solid rubber; in clincher rim, with detachable flange.] R. H. W. Bailey, Kingston-on-Thames.
 25,450 (1905). Pneumatic tire protective tread. C. Brown, Walsall, Staffordshire.
 25,467 (1905). Treating leather waste. [By the addition of 20 per cent. of rubber to the new material golf balls are made.] A. G. Inrig, Tottenham.
 25,540 (1905). Pad for applying ink to type or rubber stamps. I. K. Rogers, Mile End, Bath.
 *25,607 (1905). Machine for winding elastic and other thread or yarn on the core of golf or tennis balls. A. T. and G. H. Saunders, Akron, Ohio.
 25,658 (1905). Case for footballs, punching balls, etc. [Made by cementing or sewing together several sections of fabric, coated with india-rubber.] J. Turner, Gorton, and A. Buxton, Beswick, Manchester.
 25,701 (1905). Hose coupling. J. Muskett, Pendleton, Lancashire.

- 25,779 (1905). Solid rubber tire. [Method of construction to prevent creeping.] J. E. Hopkinson, West Drayton.
 25,822 (1905). India-rubber rings for dumb castors. A. B. Williams, Birmingham.

*25,846 (1905). Woven fabrics for pneumatic tires. A. de Laski and P. D. Thropp, Trenton, New Jersey.

- 25,975 (1905). Heel protector. H. Levy, Walthamstow.
 26,017 (1905). Pneumatic tire. [Covers shaped and molded in one operation.] New Eccles Rubber Works and J. George, Eccles.

[ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, APRIL 10, 1907.]

- 26,037 (1905). Garment for women motorists, the sleeves terminating in mittens and the bottom in a bag for covering the feet. G. Goad, London.
 *26,152 (1905). Nozzle for fire hose. F. H. Hartwell, Pittsfield, New Hampshire.
 *26,192 (1905). Pneumatic wheel. [An elastic wheel which rolls within an outer wheel of slightly larger diameter.] A. J. Robertson, U. S. Jenkins and A. W. Smith, all of Chicago, Illinois.
 26,273 (1905). Medical syringe. P. T. R. Bureau, Paris, France.
 26,290 (1905). Waterproof apparel. [Motor or driving coat, which may be used also for walking.] J. G. Robeson, London.
 26,343 (1905). Tire. Combination with pneumatic, solid or cushion tire of ring of flexible material of such diameter and so disposed in relation to the tire that under running conditions its tread touches the road and is presented immediately alongside the tread of the tire so as to intercept and arrest the lateral movement of the latter on the occurrence of side slipping.] W. W. Beaumont, London.
 26,402 (1905). Ear appliance [for excluding sounds]. T. C. B. Ling, London.
 26,419 (1905). Pneumatic tires [with gaiters for the prevention of slipping]. W. H. Oates, Sheffield.
 *26,455 (1905). Hose coupling [for air brake hose]. P. Roulstone, Bayonne, New Jersey.
 26,459 (1905). Pneumatic cleaning apparatus. A. Richter, Garches, France.
 26,476 (1905). Waterproof filler for soles of boots and shoes. P. A. Newton, London.
 26,503 (1905). Hose, made of "untearable fabric." Société Civile d'Etudes de l'Indécirable Grimson, Lyons, France.
 26,514 (1905). Pneumatic tire [with detachable rim flange]. M. Peltier, Neuilly, France.
 26,536 (1905). Connecting pumps to pneumatic tires. [Tubes of india-rubber, around which thin leather strips are plaited.] R. A. Fletcher, Birmingham.
 26,599 (1905). Compound fabrics. [Thin sheet cork, demineralized, is soaked in benzine and Para rubber cement, which is subsequently vulcanized.] Société Anonyme du Grimson, Charenton, France.
 [ABSTRACTED FROM THE ILLUSTRATED OFFICIAL JOURNAL, APRIL 17, 1907.]
 26,686 (1905). Pneumatic tire. V. Faus, Antwerp, Belgium.
 *26,697 (1905). Eraser holder. A. F. W. Bowen, San Francisco, California.
 26,702 (1905). Tire attachment. [To prevent lateral slipping.] S. Harris, London.
 26,743 (1905). Golf ball. A. Uquhart, Edinburgh, and H. Hanson, Leith.
 26,859 (1905). Vulcanizing apparatus. P. Salvesini, Mostor, Austria.
 25,860 (1905). Vacuum cleaning device. A. R. Thom, St. Pancras, Middlesex.
 26,867 (1905). Resilient tire. H. Klingler, Thurgau, Switzerland.
 26,976 (1905). Rubber stamp. A. C. Thomson, Glasgow.
 26,981 (1905). Pneumatic tire, with puncture-closing tread. C. J. C. Baker, Krugersdorp, Transvaal.
 27,012 (1905). Rubber covered spring for retaining overshoes on the boot. C. L. Higgins, Montreal, Canada.
 *27,020 (1905). Tire rim with removable flange. R. S. Bryant, Columbus, Ohio.
 27,041 (1905). Pneumatic tire. G. E. Cain, Bolton, and H. Sidebottom, Old Trafford, Manchester.
 27,103 (1905). Tire. F. J. Chary, St. Cyr, Paris, France.
 *27,192 (1905). Pneumatic tire. J. C. Cole, Chicopee Falls, Massachusetts.
 27,273 (1905). Elastic tire, with metallic spring linings. R. Desouches, Paris, France.

THE GERMAN EMPIRE.

PATENTS GRANTED.

- 181,832. Process for making pneumatic tire covers. Mitteldeutsche Gummiwaren-Fabrik, Louis Peter, A.-G., Frankfurt, a. M. Addition to Patent No. 173,365.
 181,857. Hoofpad attached to leather. Peter Roos and Friedrich Emmerich, Frankfurt, a. M.

GEBRAUCHSMUSTER.

- 292,310. Corrugated anti-slipping tire tread. Hannoversche Gummi-Kamm Co., A.-G., Hannover-Limmer.
 292,401. Injection syringe with rubber buffer for the piston. Dr. Emil Groscheintz, Basel.
 292,433. Nursing bottle holder. Firma G. H. Nuster, Oschatz.

- 292,495. Strap for securing belting, hose and the like. Armaturen u. Maschinen-fabrik Westfalia A.-G., Gelsen-Kirchen.
 292,521. Irrigating device, of bulb and nozzle, for the colon. Rudolph Klemmer, Krumbach.
 292,576. Inflatable air bed. Hermann Taeger and Frau Aug. Kirchner, Halle.
 293,414. Rubber block stamping apparatus for dental purposes. Bernhard Butter, Berlin.
 293,781. Pneumatic tire tread with anti-slipping rivet heads held in a layer of rubber. Actiengesellschaft Metzeler & Co., Munich.
 293,812. Painters' glove, with thumb stall, finger stall, and shield for the closed hand. Zeiger & Wiegand, Leipzig.
 293,839. Protective device for boring machines. Wilhelm Pahl, Dortmund.
 293,936. Rubber heel protector, secured by a screw in recessed casing. Ludwig Blumhardt, Darmstadt.

THE FRENCH REPUBLIC.

PATENTS ISSUED (WITH DATES OF APPLICATION).

- 369,587 (Sept. 10, 1906). E. Campagne. Dismountable rim.
 369,612 (Sept. 11). Zwingelstein. Elastic tire.
 369,644 (Sept. 11). J. P. Poulet. Protector for pneumatic tires.
 369,652 (Sept. 12). W. Christie. Removable rim.
 369,719 (Sept. 13). Zacharias Olsson. Artificial caoutchouc. [This is the "Zackingummi" described elsewhere in these pages.]
 361,944 (Nov. 27, 1905). Orange and Denis. Plastic and elastic material.
 369,680 (Aug. 2, 1906). Mercier. Tire protector, of spongy or cellular construction.
 369,737 (Sept. 13). Société Michelin et Cie. Process and device for mounting pneumatic tires.
 369,804 (Sept. 17). Société Anonyme des Pneus Cuir Samson. Dismountable rim.
 369,738 (Sept. 13). A. Bloch-Levallois. Process of metallizing rubber, rubber fabrics and analogous substances with aluminum.
 369,797 (Sept. 15). C. Claessen. Process for the manufacture of a material similar to ebonite.
 369,818 (Sept. 18). G. Gabet. Hydro-pneumatic elastic wheel.
 369,819 (Sept. 18). P. de Caters. Dismountable rim.
 369,849 (Sept. 19). J. de Pontonn. Repair apparatus for tire tubes.
 369,814 (Sept. 17). S. Schwarzschild. Improvement in rubber footwear.
 369,815 (Sept. 17). S. Schwarzschild. Process of manufacturing rubber footwear.
 369,877 (Sept. 18). Chevillard et Kucharek. Vehicle wheel with interior cushion of rubber.
 370,035 (Sept. 26). P. Prache. Spring wheel.
 370,125 (Oct. 1). C. Cadet Fils. Protective envelopes of vulcanized fiber for pneumatic tires.
 370,150 (Oct. 2). H. Eheis. Steel protector for pneumatic tires.
 370,182 (Oct. 3). Société Pneumatic Harness, Ltd. Pneumatic horse collar.
 370,188 (Aug. 20). E. Sloper et R. Sloper. Machine for preparing fabrics for tire covers.
 370,200 (Sept. 15). T. Labre. System of repairing pneumatic tires.
 370,248 (Oct. 4). H. Parsons. Protective tread for tires.
 370,346 (Oct. 10). C. A. Shaler. Vulcanizer for tire repairs.

[NOTE.—Printed copies of specifications of French patents may be obtained from R. Bobet, Ingenieur-Conseil, 16 avenue de Villiers, Paris, at 50 cents each, postpaid.]

THE GROWING RUBBER HEEL TRADE.

THE question "Is the rubber heel going out of use?" is answered strongly in the negative by a leading firm producing these goods. They advise THE INDIA RUBBER WORLD that their trade during 1906 was larger than in any previous year, and that their arrangements for the current year are on a still larger scale. Their letter says:

"Our business with shoe manufacturers is increasing by leaps and bounds, and in our opinion you can't stop it from growing. Housekeepers and nurses buy what are known as 'Juliet's' equipped with our rubber heels; they are a hand turned shoe, very easy to the feet, noiseless, and easy to pull on. Slippers are practically not used at all. These shoes appeal to the average housewife, and for nurses and persons who have to stand behind a counter all day they are the most comfortable footwear ever constructed."

A writer in *American Shoemaking* mentions that whereas only three or four firms in this country were making rubber heels

seven years ago, there must be now 40 or 50 manufacturers of them. The older manufacturers, he thinks, are doing as much or more business than when there was less competition, while many of those who have taken up the business later appear to have a liberal share of trade. Besides, while some very low priced heels are offered, there are manufacturers who are educating their trade to appreciate better grades of heels, which give good service and are generally satisfactory. The trade has been benefited by the rise in leather, lessening the difference between the cost of a good leather heel and a good rubber heel.

The manufacturer is now able to equip his shoes with rubber heels at a cost of only a few cents more than for leather, while he can obtain from the retail dealer 25 cents a pair more for the shoes. The writer figures the cost to the retailer of buying heels and putting them on leather shoes for his customers, with the result of showing a better profit in buying shoes fitted with rubber heels at the factory. These facts are becoming appreciated, and are tending to a steady increase in the introduction of the resilient heels.

Rubber heels can be put on with the regular heel attaching machinery, and they require no edge finishing, polishing or dressing, all of which is an advantage to the manufacturer. The benefit to the retailer is that he can supply his customers with rubber-heeled shoes without the delay of putting on the heels himself, as was necessary formerly.

Another writer in the same paper says that the shoes heeled with rubber in the factories are almost wholly for women's wear, very few heels having been used as yet in factories making men's shoes. He refers to rubber heels being worn largely by women indoors. The advantages claimed for rubber heels are disputed by a writer in *Boot and Shoe Recorder*, though admitting that "hundreds of thousands of rubber heels will be sold this winter, and in many winters to come." All of this he attributes to "clever advertising."

SEPARATING RESINS FROM RUBBER.

THE British patent of M. Wilderman (No. 20,606—1905) relates to means for extracting the more valuable parts from crude india-rubber. The crude rubber, washed and freed from albumen, is treated with a mixture of two or more solvents, one of which, such as chloroform, benzene or carbon tetrachloride, dissolves the whole of the rubber, while the other, such as methyl or ethyl alcohol or acetone, dissolves resins only. The solvents are mixed in such proportion that the more valuable products of the rubber (the *a* rubber, or the *a+b* rubber) remain undissolved, while the resins and poorer products remain in solution. The solvents are recovered by distillation, the process being made cyclic. The last traces of solvent are removed from the rubber by distillation under reduced pressure.



WORKS OF THE AVON INDIA RUBBER CO., LIMITED.
 [Important manufacturers of tires, at Melksham, Wiltshire, England.]

United States Rubber Co.'s Annual.

THE fifteenth annual meeting of shareholders of the United States Rubber Co., incorporated under the laws of New Jersey, was held at the registered offices of the company in that state, at New Brunswick, on May 21. The operations of the company during the last business year and its condition at the close of the year, are indicated in the annual reports of officers, as read and approved, and which are presented here:

PRESIDENT'S ANNUAL REPORT.

TO THE STOCKHOLDERS OF THE UNITED STATES RUBBER CO.: Your president has now served the company for the past six years. A few comparisons between the condition of the company in 1901 and now will be of interest.

The company was then paying no dividends upon any of its stocks: it is now paying full dividends upon its preferred stocks. The company's net sales for the previous year were \$20,853,633.94; its net sales for the year ending March 31, 1907, exclusive of the Rubber Goods Manufacturing Co., were \$39,715,730.66, and with the sales of the latter company of \$19,737,120.81, were \$59,452,851.47. The net profits of the company for the year ending March 31, 1902, were \$119,495.60, and for the year ending March 31, 1907, were \$4,590,382.72, with but \$689,308.32 of the Rubber Goods company's profits of \$2,004,484.26 included.

The surplus of the company, which was then nominal, is now \$6,126,706.44.

The report of the treasurer which follows gives in detail the result of the operations of the United States Rubber Co. and its subsidiary companies for the last fiscal year, and their condition at the close of the year.

The volume of business and the net profits are the most satisfactory of any year in the history of the company, and when considered in connection with the operations of the Rubber Goods Manufacturing Co. the showing is still further improved.

The net profits of the Rubber Goods Manufacturing Co. for the year 1905 were \$1,358,485.29, while for the year 1906 the profits were \$2,004,484.26. Of this profit there is but \$689,308.32 included in the report of the treasurer of the United States Rubber Co. appended hereto. The volume of business done by the Rubber Goods company also increased \$2,074,667.81 over the previous year.

The extensive manufacturing plants belonging to the company have been maintained in the best condition, and many improvements made during the year, the cost of which has been charged to operating expenses.

To accommodate the increased business of the company some new construction has been found necessary, and at certain of our factories new buildings are now in course of erection, among which is a large wire insulating plant at the National factory at Bristol, Rhode Island.

The United States Rubber Co. and the Rubber Goods Manufacturing Co. have further united their operations in purchasing, selling and manufacturing, to the great benefit of both companies. The executive offices of the Rubber Goods company in New York have been moved to the same building (No. 42 Broadway) as those of the United States Rubber Co., and between the officers and directors of the two companies the most complete harmony and coöperation exist.

Practically the whole of the common stock of the Rubber Goods Manufacturing Co. has now been exchanged for the second preferred stock of the United States Rubber Co. There is about \$3,000,000 of the preferred stock of the Rubber Goods company still unexchanged, as to which your directors have thought it as well to take no action, at least for the present.

Great advance has been made during the year in the development of our facilities for providing through the General Rubber

Co. for our very large consumption of crude rubber. In addition to houses previously established, we have added during the year those of William Symington & Co., Limited, at London and Liverpool, through which we have our representatives in the principal crude rubber markets of Europe. Our Para and Manaos houses now draw direct on our London house in payment for certain of our rubber purchases, thus saving bankers' commissions heretofore paid. We also have further developed our facilities whereby we get "nearer the tree" in procuring a part of our supply of crude rubber. The General Rubber Co. has added a selling department to its facilities during the year.

A suggested consolidation with the Continental Rubber Co. was deemed by your directors to be non-advisable in the present development of the so called mechanical process of obtaining crude rubber through the grinding up of shrubs producing the gum, which is done extensively by the Continental Rubber Co., but that company and the General Rubber Co. have now agreed upon the terms of an arrangement which insures complete harmony and coöperation hereafter between the United States Rubber Co. and the Continental Rubber Co. and between those connected with both companies.

There have been transactions of the company of importance to stockholders in which your president and some of the directors have participated.

Owing to the generally severe winter just passed, there is every indication of a largely increased business in rubber footwear the coming year. The market is bare of goods and our unfilled orders are 60.5 per cent greater than they were at this time last year. In the miscellaneous lines of rubber goods equally favorable conditions exist, and there is every promise that the year to come will prove to be the most prosperous in the history of the company.

The record books of the directors and of the executive committee will as usual be open for inspection by stockholders at and before the annual meeting, this report as last year being sent out in advance of the meeting. Respectfully submitted,

SAMUEL P. COLT, President.

New Brunswick, New Jersey, May 21, 1907.

TREASURER'S REPORT.

THE UNITED STATES RUBBER CO. AND SUBSIDIARY COMPANIES.

CONSOLIDATED GENERAL BALANCE SHEET, MARCH 31, 1907.

[Not including Assets or Liabilities of the Rubber Goods Manufacturing Co., or of its subsidiary companies.]

ASSETS.

Property and plants (including shares of R. G. M. Co.).....	\$74,455,762.80
Inventories, Mfd goods and materials	\$18,404,726.75
Cash	2,061,401.27
Bills and loans receivable.....	3,681,129.19
Accounts receivable.....	8,687,631.17
Securities owned.....	7,317,759.38
Miscellaneous assets.....	859,919.56
Total assets	\$115,468,330.12

LIABILITIES.

Capital stock, First preferred.....	\$36,263,000.00
Capital stock, Second preferred....	9,848,600.00
Capital stock, Common.....	25,000,000.00
Boston Rubber Shoe Co., Debentures	4,800,000.00
United States Rubber Co., Funding notes	8,000,000.00
Fixed surpluses (Subsidiary companies)	8,134,849.37

Loans and notes payable.....	\$6,821,077.55	
Merchandise accounts payable.....	737,384.91	
Due General Rubber Co.....	7,269,441.07	14,827,903.53
Deferred liabilities		594,281.78
Reserve for depreciation of securities		1,000,000.00
Reserve for dividends.....		872,980.00
Surplus		6,126,706.44

Total liabilities \$115,468,330.12

CONSOLIDATED INCOME STATEMENT FOR YEAR ENDING MARCH 31, 1907.

Gross sales, Boots and shoes and miscellaneous	\$60,568,852.27	
Net sales, Boots and shoes and miscellaneous	\$39,715,730.66	
Cost of goods sold.....	33,125,921.96	
Manufacturing profits	\$6,589,808.70	
Freight, taxes, insurance, general and selling expenses.....	1,931,746.16	
Operating profits	\$4,658,062.54	
Rubber Goods Mfg Co., Dividends, as adjusted	\$689,308.32	
Other income	872,031.85	1,561,340.17
Total income	\$6,219,402.71	
Less:		
Interest and commission on Funding notes and borrowed money...	\$1,228,954.28	
Interest on Boston Rubber Shoe Co. debentures	240,000.00	
Interest allowed customers for prepayments	93,532.19	1,562,486.47
Net income to surplus.....	\$4,656,916.24	
Deductions for bad debts, etc.....	66,533.52	
Net profits	\$4,590,382.72	
Dividends	3,485,956.00	
Surplus for period.....	\$1,104,426.72	
Surplus April 1, 1906.....	5,022,279.72	
Surplus March 31, 1907.....	\$6,126,706.44	

JOHN J. WATSON, Jr., Treasurer.

THE ANNUAL ELECTION.

THE board of directors, nineteen members, was reelected. The list is as follows, together with the number of terms for which each member of the board has been chosen:

Walter S. Ballou, Providence, Rhode Island. [Fifth term.]
 Elias C. Benedict, No. 80 Broadway, New York. [Sixth term.]
 Anthony N. Brady, No. 54 Wall street, New York. [Fourth term.]
 Samuel P. Colt, Bristol, Rhode Island. [Sixteenth term.]
 Harry E. Converse, Boston, Massachusetts. [Tenth term.]
 Charles H. Dale, No. 16 Warren street, New York. [Second term.]
 James B. Ford, No. 42 Broadway, New York [Sixteenth term.]
 J. Howard Ford, No. 42 Broadway, New York. [Sixteenth term.]
 Frank S. Hastings, No. 80 Broadway, New York. [Third term.]
 Francis L. Hine, No. 2 Wall street, New York. [Fifth term.]
 Henry L. Hotchkiss, New Haven, Connecticut. [Sixteenth term.]
 Arthur L. Kelley, Providence, Rhode Island. [Second term.]
 Lester Leland, Boston, Massachusetts. [Ninth term.]
 Homer E. Sawyer, No. 42 Broadway, New York. [Second term.]
 Frederick M. Shepard, No. 787 Broadway, New York. [Sixteenth term.]
 Francis Lynde Stetson, No. 15 Broad street, New York. [Sixth term.]
 William H. Truesdale, No. 26 Exchange place, New York. [Third term.]
 John D. Vermeule, No. 503 Broadway, New York. [Eleventh term.]
 John J. Watson, Jr., No. 42 Broadway, New York. [Third term.]

The newly elected board met in New York on May 24 and after organizing reelected the following officers and executive committee:

President—SAMUEL P. COLT.
 First Vice President—JAMES B. FORD.
 Second Vice President—LESTER LELAND.
 General Manager—HOMER E. SAWYER.
 Treasurer—JOHN J. WATSON, JR.
 Assistant Treasurer—W. G. PARSONS.
 Secretary—SAMUEL NORRIS.
 Assistant Secretary—JOHN D. CARBERRY.

The executive committee consists of Samuel P. Colt, James B. Ford, Lester Leland, E. C. Benedict, Walter S. Ballou and Anthony N. Brady.

THE "CONTINENTAL" AND ALLIED COMPANIES.

THE reference in President Colt's report to negotiations with the Continental Rubber Co. was awaited with considerable interest, in view of various statements that have appeared in the press, though the report proves not to be very definite. In last month's INDIA RUBBER WORLD (page 256) negotiations were referred to between the United States Rubber Co. and the Intercontinental Rubber Co., with an intimation that no decision had been reached. The record of the last named company and of its subsidiary companies to date is as follows:

Intercontinental Rubber Co., incorporated New Jersey December 6, 1906; authorized capital, \$40,000,000—preferred, \$10,000,000; common, \$30,000,000. Registered office: No. 15 Exchange place, Jersey City, N. J.

Continental Rubber Co. of America, incorporated New Jersey January 6, 1906; authorized capital, \$30,000,000. Registered office: No. 15 Exchange place, Jersey City, N. J.

Continental Rubber Co., incorporated New Jersey May 13, 1903 (as American Rubber Co.) and June 29, 1903; authorized capital (January 27, 1905), \$562,000—all preferred. Office: No. 111 Broadway, New York.

Continental-Mexican Rubber Co., incorporated New Jersey October 14, 1904; capital, \$100,000. Office: No. 111 Broadway, New York.

American Congo Co., incorporated New York October 22, 1906; capital, \$510,000. Office: No. 35 Nassau street, New York.

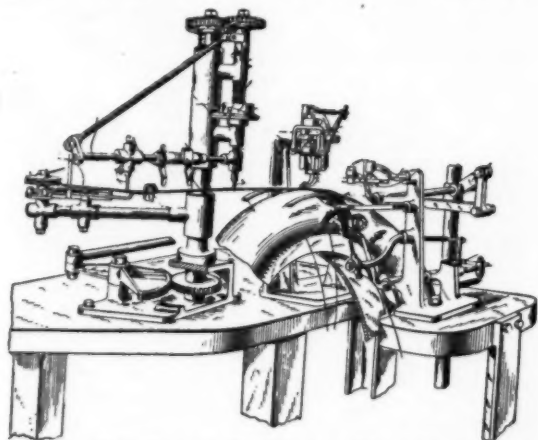
The "Continental" companies are now operating actively in the exploitation of "guayule" rubber in Mexico, and the American Congo Co. are laying the foundation for work on a concession granted recently by the Congo Free State government. The arrangement mentioned by President Colt doubtless refers to the purchase of crude rubber from the Continental companies, as they later may purchase from the Congo through allied interests. In various published interviews, President Colt has been quoted as saying that the United States Rubber Co. had under consideration plans for engaging in the Congo trade in the way of buying rubber direct, and it may be that the way will now be open through connections with the American Congo Co.

Recent newspaper reports have been based evidently upon the impression that the Continental Rubber Co. might establish factories for rubber goods as a means of disposing of their guayule product, and that the fact of their thus becoming competitors of the United States Rubber Co. as manufacturers had led the latter to consider the question of a general consolidation, but all of this lacks authentic confirmation.

The latest report regarding the transaction between the United States and Intercontinental companies is the latter will sell guayule rubber exclusively to the United States company, which agrees not to enter the field of the guayule production. The United States Rubber Co., it is stated, have an option for the purchase of a stock interest in the Intercontinental Rubber Co.

A TIRE FABRIC MACHINE.

WHILE we speak continually of "rubber" tires, and in terms that would be proper if they contained nothing but rubber, the fact is becoming more and more appreciated that, in the case of pneumatics, it is the textile fabric that really makes the tire. The inner tube—the air chamber—has become standardized, so to speak, so that one make differs little if at all from another, and the "cover" is the essential thing in deciding what tire to buy. And tire making has developed new needs in the way of fabrics, since none of the countless different means resulting from the cloth making art for thousands of years sufficed for the demand created by the introduction of the automobile. This is not the place for saying what is the best type of tire fabric now in use—possibly no one fabric on the market is best suited

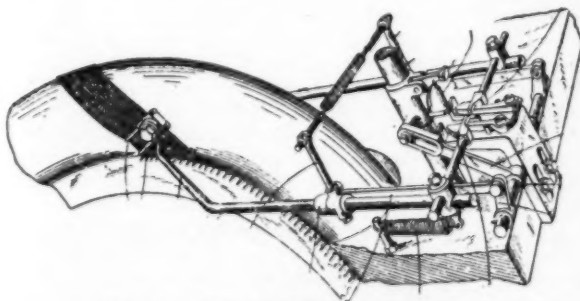


THE PALMER CORD LAYING MACHINE.

[In practice the "former" is a complete circle, permitting the fabric for an entire tire to be made upon it.]

for all the different requirements of pneumatic tire service—but in the field of successful tire making account must be taken of the Palmer Cord, and the ingenious machines invented for producing the fabric to which this name is applied.

Originally canvas was used as the restraining material in the making of pneumatic tires. But even while the demand for such tires was confined practically to bicycles specially designed fabrics began to be brought out to meet pressing demands,



DETAIL OF PALMER CORD LAYING MACHINE.

among the earliest being the Palmer invention, which has undergone various modifications to adapt it to the heavier service required of motor tires. In this fabric every thread is separated and cushioned in vulcanized rubber, with the effect of adding to the resistance of the tire in which it is used. At the same time the threads (warp and weft) are so arranged with relation to each that all the strains are direct; there are no slack threads, and the tensions on all the threads are uniform.

All these are desirable qualities, but all were not arrived at without much study and experimenting. To-day the Palmer system involves not only the making of a particular class of fabric, but the cords themselves are specially made. After the system had been developed until it seemed that nothing remained to be done for its improvement, a machine was designed to replace hand work in the laying of the cords. Not only is great economy involved in the machine work, but it affords an equality of tension of the threads which it was impossible to obtain by hand work. It is stated that a pair of these machines will make the fabric for a motor tire in about nine minutes, against an average of about a day for an experienced girl by hand.

In this machine the cord is fed from a supply spool to a combined tension regulator and governor, which regulates the delivery and maintains a reserve supply of cord under uniform tension. A folding device measures off an exact length of this cord and folds it into a double loop. Automatic fingers then seize the loops and place them one on each side, in their proper positions, on a "former," and also on to the staples which are used in the bead of Palmer tires to anchor the loops of cord.

In addition to its other advantages, the use of this machine permits the work of tire making to be carried on in very much less space than was required before. At a recent motor show at Edinburgh The Palmer Tyre, Limited, exhibited these machines at work, forming one of the most interesting features of the show. The inventor is Mr. Thomas Sloper, who has designed so many improvements in the tire manufacture.

NEW DETACHABLE TIRE GRIP.

A TIRE grip developed by one of the largest leather manufacturing concerns in America, after a thorough study of the needs of motorists, is recommended, first, on the



HEAVY DETACHABLE TIRE GRIP.

score of not bringing any metal whatever in contact with the rubber of the tire. In construction it is similar to the chain grips already in use, but is made throughout of a very tough chrome leather treated by a water-proofing process. The cross straps of this grip have steel rivets inserted in them, which are referred to as giving much longer wear than the chain grip. The illustration serves excellently to show the structure

and method of application of the new grip, which is marketed by the Healy Leather Tire Co., New York.

THE *Pará Diario Oficial* publishes a decree approving the plans for the harbor works to be constructed by the company Port of Pará. [See THE INDIA RUBBER WORLD, March 1, 1907—page 192.] The work on the first section is estimated to cost \$19,159,829, and the second part \$14,059,535—the figures being the equivalents of the gold milreis estimates published.

SEND to this office for a free copy of the index to "Crude Rubber and Compounding Ingredients."

JOHN BOYD DUNLOP.

WHEREVER pneumatic tires are used the name of Dunlop as an inventor is known—one who was a pioneer and whose invention possessed enough novelty and merit to make a definite impression upon the world. The success which the pneumatic tire speedily attained naturally appealed to a host of other inventors, or those who wished to be such, and the combined product of their work is a standard of tire construction to-day that is far removed from the type developed by John Boyd Dunlop twenty years ago. Yet the chief essentials of the pneumatic tire were embodied in Dunlop's first



JOHN BOYD DUNLOP.

patent specification, and all the improvements in detail that have been wrought in the trade have not resulted in giving such universal prominence to any other one inventor in this field.

It was about October, 1887, according to Mr. Dunlop's own account, that he began to consider the possible advantages of a pneumatic tire. The bicycle had already gained considerable vogue and solid rubber

tires were coming into use, but Mr. Dunlop was trying to think of something better than these. For some years he had been studying spring wheels, but at the date above mentioned he gave this up to deal with the problem of a more resilient rubber tire. He was at the time busy with his practice as a veterinary surgeon at Belfast, Ireland. He really intended postponing the actual work of an inventor until he should retire from practice, but his son, who had begun to ride a tricycle, knowing what was in the father's mind, pleaded with him for the new tire until further procrastination was impossible.

Procuring a disk of wood about 16 inches in diameter and 1½ inches thick, Mr. Dunlop proceeded to construct the rubber fittings he desired to convert it into a resilient wheel. He first constructed an air tube of sheet rubber one-sixteenth of an inch thick, inserting in it for the purpose of inflation a short piece of tubing such as is used in children's feeding bottles. Placing the air tube on the periphery of the disk of wood he covered the air tube with a strip of thin linen cloth and secured the cloth in a temporary manner to the disk by means of small tacks. The tire was inflated by means of a pump used for footballs and the little air supply tube tied with a piece of thread. This tire was completed one evening in December, 1887.

That evening Mr. Dunlop, accompanied by a few friends, went into his garden to test the rubber-tired disk in connection with the front wheel from his son's tricycle, the latter being equipped with a solid rubber tire. When they were rolled down a garden path the pneumatic-tired disk seemed to go farther and faster. The two wheels were then tested for resilience, the result being in favor of the pneumatic. The disk when dropped to the floor from a height of about 4 feet was found to rise nearly to the point from which it was dropped.

These experiments confirmed Mr. Dunlop's theories regarding the advantages of a pneumatic tire and led him to complete the invention on which he applied for and obtained his first tire

patent in 1888. Mr. Dunlop lives now in Dublin, still taking an interest in pneumatic tire development, though no longer connected actively with the business.

RUBBER EXPLOITATION IN PERU.

AT the statutory meeting in London, on May 14, of the Inambari Para-Rubber Estates, Limited [organization reported in THE INDIA RUBBER WORLD, March 1, 1907—page 200], it was stated that of the 200,000 £1 shares allotted at the public subscription in February, 150,278 shares had been fully paid, and the total cash received to date on the shares was £165,959 [=£807,739.47]. The preliminary expenses amounted to £21,941. The disposition of the capital thus far is as follows:

Purchase price, shares.....	£100,000
Purchase price, cash.....	100,000
Preliminary expenses	21,941
Working capital	78,059
Shares reserved in treasury.....	50,000

Total capital £350,000

The vendors to the new company are Frank Squier, of New York, and Sir George Newnes, Bart, M. P., of London, who are understood to be under agreement to disburse £120,000 of the £200,000 coming to them as follows: To the Sociedad Exploradora de Gomales Porras y Cia. and the Sociedad Gomera del Bajo Inambari, jointly, for leasehold properties, £40,000 in cash; to the Carabaya Rubber and Navigation Co., for a road concession, lands, properties, and rights, £40,000 in cash and £40,000 in shares. This would leave for the vendors £20,000 in cash and £60,000 in shares of the newly formed company. The location of the rubber properties is in eastern Peru, on the river Inambari, an affluent of the Madre de Dios. Two of the companies mentioned above have headquarters at Lima, Peru, while the Carabaya was organized at New York.

TEST FOR FARINHA IN RUBBER.

THOSE manufacturers who now and then receive lots of Pará rubber adulterated with the starch like meal of the mandioc or cassava plant—also called farinha flour—may be interested to know of the method of detecting such adulteration employed by Mr. Walter E. Piper, at the Boston Rubber Shoe Co.'s factories. Starch is a characteristic test of iodine, forming with it a deep blue compound. Mr. Piper uses a solution in water of iodine and potassium iodide, which is applied with a brush to the interior of a "ham" of fine Pará. If there is farinaceous matter present it will speedily take on a bluish appearance. Ordinarily the adulterant is not visible, and the manufacturer becomes aware of it only from the extra loss in washing rubber. Provided with a suitable test, the manufacturer would be in a position to refuse delivery of adulterated rubber, or to claim a rebate, and the buyer of rubber, say at Pará or Manãos, could similarly protest against the acceptance of rubber containing impurities beyond an agreed upon standard.

TIRE FACTORY AT SINGAPORE.

THE first rubber factory to be established in the British Indies is the Singapore Rubber Works at Singapore, at which has been begun the manufacture of solid rubber tires for vehicles. Hooglandt & Co., a large firm of commission merchants of Singapore, at 19, Collyer quay, have been appointed agents for the new company for India, the Straits Settlements, Siam, Cochinchina, and China. The *Malay Mail* observes: "The works are buying their rubber direct from the producing centers, and the cheap labor makes it possible, we are informed, to compete successfully with the American and other tires up till now being imported."

FIRESTONE DISMOUNTABLE RIM.

THE Firestone dismountable rim, designed for reducing the delays incident to changing tires on the road, is adapted alike for the tourist and the racing motorist. By this system annoying features of road tire repair may be eliminated by carrying an extra rim equipped with an inflated tire. The rim is referred to as absolutely safe; the mechanical fastening prevents it from coming off in case of accident, and it cannot creep or work around the rim, and thus come loose. The rim is removed from the wheel with a single lateral movement, thus presenting a surface for friction equal merely to the width of the felloe. The rim is removed by loosening the nuts, allowing them to remain on the bolts; the clips are turned in the opposite direction, and the nuts tightened to hold the clips in that position. The rim is then easily slipped off. In adjusting the extra rim with its inflated tire, the operation is reversed. The expense of changing automobile wheels to permit their equipment with the dismountable rim is understood to be slight, and the rim is adapted to any standard clincher tire.

THE demand for a nonskidding tire of the pneumatic type has been recognized by the Firestone Tire and Rubber Co. (Akron, Ohio), who are now placing a "Dual Tread" tire on the market. The Dual tread is somewhat thicker than the ordinary tread, and consists of two ridges of rubber about $\frac{5}{8}$ -inch thick and from $1\frac{1}{2}$ to 2 inches apart, extending around the tire. It is adaptable to tires of $3\frac{1}{2}$ -inch size and upwards, and may be incorporated in any type of tire during manufacture. It is claimed that this device gives nonskidding features in advance of those possessed by any other tire. The twin tire idea has been in use for some time with solid tires, particularly for heavy vehicles.

SAFETY OF FACTORY EMPLOYEES.

THE Exposition of Safety Devices and Industrial Hygiene held in January and February last at the American Museum of Natural History in New York is to be made a permanent museum of security. An advisory committee has been organized to further the work of protecting life and limb, the scope of which will include measures for the better protection of employes in factories from dangers connected with the use of machinery and from poisonous fumes and the like. The *Scientific American* (New York) has provided for a gold medal to be awarded annually for the best device for preventing accident. Further information can be obtained from Mr. William H. Tollman, director of the American Institute of Social Science, at the Museum of Natural History.

HEALTH OF RUBBER WORKERS.

A RECENT report by the state board of health of Massachusetts upon the sanitary condition of factories and workshops states in general that "in the rubber factories examined during this investigation the greater part were in better condition than those previously reported upon." It appears that 14 rubber fac-

tories were visited, of which five were very small. There were employed a total of about 9,000 persons, chiefly in making footwear. As a rule no ill effects of the work upon the employes was noted—particularly no cases of lead poisoning. In the case of new employes unpleasant but not serious effects from naphtha fumes were mentioned. "In but two cases was machinery found to be inadequately guarded; in one of the large gears of the calenders and in the others some right angled gears on spreaders were unprotected." In respect of lighting, ventilation and cleanliness, favorable mention is made.

RUBBER STAMPS FOR POSTAL USE.

THE United States postoffice department advertised for proposals, to be sent to Washington by April 22, for supplies of all kinds for the fiscal year beginning July 1, including rubber items of a greater amount than in any former year. The specifications included:

- 11,050 pounds rubber bands.
- 900 boxes erasers.
- 1,150 dozen typewriter erasers.
- 104,801 rubber stamps, in great variety.
- 550 items of rubber stamp repairs.
- 10,445 rubber type.
- 400 rubber stamping pads.
- 4,100 dozen pads for rubber stamps.
- 1 gross finger cots.

The specifications two years ago included 6,800 pounds of rubber bands and 51,685 rubber stamps. This year's specifications do not mention "flexible stamps of printers' roller composition," of which a considerable number were taken at one time. [See THE INDIA RUBBER WORLD, June 1, 1905—page 314.] This year it is required that "all rubber stamps must be of the best quality of sheet rubber," with the cement guaranteed to hold for two years.

RUBBER GOODS FOR THE INDIANS.

THE specifications for supplies for the Indians, at the government expense, for the next fiscal year, and for which proposals were opened at Washington on April 11, included details regarding 740 pairs of rubber boots, 9,425 pairs of rubber shoes, 16,600 feet of garden hose, 1,715 feet of rubber belting and 1,455 pounds of rubber packing.

The awards for rubber footwear went chiefly to J. Edmund Strong, of Chicago, who has been the successful bidder on this line of goods for several years.

WANTS AND INQUIRIES.

- [403] NAMES of manufacturers of unlined linen hose are desired by a Western rubber company.
- [404] Can any of our readers inform an inquirer if it is practicable to reclaim shoddy with dry heat?
- [405] Where can *Castilloa* rubber seeds be procured?
- [406] Who manufactures the following kinds of packing, and who are the American agents—"Durabla," "Vanda," "Klinger-tite"?
- [407] Wanted names of makers of machinery for extracting the latex from rubber trees by creating a vacuum or similar means.
- [408] Wanted the name of the manufacturer of "Rockhard" packing.
- [409] Wanted names of manufactures of gutta-percha tissue for tailors' use.
- [410] Wanted name of firms making special machinery for the manufacture of fountain pens.
- [411] Who manufactures gutta-percha tissue in black, white and brown for mending purposes?

THE Chiapas Rubber Co., of Mexico, is mentioned among the purchasers of a press for preparing rubber in "block" form, made by Brown & Davidson, Limited, of Colombo, Ceylon.

D. LORNE MCGIBBON, PRESIDENT.

MR. S. H. C. MINER, having retired from the presidency of the Canadian Consolidated Rubber Co., has been succeeded by Mr. D. Lorne McGibbon, who becomes general manager as well as president. At the first annual general meeting of the company at Montreal, on May 7, the board of directors were reelected, except that the vacancy caused by the retirement of Mr. J. H. McKechnie was filled by the choice of Mr. E. W. Nesbitt. The board now consists of:

S. H. C. Miner,	Alexander Pringle,
G. W. Stephens, M.L.A.,	C. C. Ballantyne,
D. Lorne McGibbon,	H. J. Fuller,
James Robinson,	W. R. Allan,
E. W. Nesbitt,	A. C. Flumerfelt.
Shirley Ogilvie,	

After the meeting of shareholders a meeting of the directors was held, when the following were elected officers of the company:

President and Managing Director.—D. Lorne McGibbon.

Vice-President.—Major George W. Stephens, M.L.A.

Secretary-Treasurer.—F. H. Ward.

The Canadian Consolidated Rubber Co., Limited, was organized in December last, under letters patent of the Dominion of

Canada, for the purpose of acquiring control of a number of leading rubber factories, the list of companies now owned being as follows: The Canadian Rubber Co. of Montreal, Limited; The Granby Rubber Co., Limited, of Granby; The Maple Leaf Rubber Co., Limited, of Port Dalhousie; The Merchants' Rubber Co., Limited, of Berlin, and the Berlin Rubber Manufacturing Co., Limited. The capital of the consolidated companies consists of \$2,600,000 in



DOUGLAS LORNE MCGIBBON.

[New President of the Canadian Consolidated Rubber Co., Limited.] \$2,000,000 in 7 per cent. preferred shares, and \$3,000,000 in common shares—total \$7,600,000.

The new president of the corporation, Mr. D. Lorne McGibbon, has for some time past filled the position of vice president and managing director of The Canadian Rubber Co. of Montreal, Limited, with distinguished success. Since the reorganization of the latter company the controlling spirits have all been young men, and the showing they have made has been such as to prepare the public for the elevation to the head of one of the largest industrial corporations in the Dominion of a man yet considerably less than 40 years of age.

Douglas Lorne McGibbon, whose parents were of pure Scotch descent, was born November 24, 1870, at "Thornbury," Montreal, and was educated at the High School of Montreal. His father, the late Major Alexander A. McGibbon, who died three years ago, was long a leading merchant in Montreal, afterward rendering signal services to the government in dealing with the Indians in the Northwest. At an early age Mr. McGibbon entered the life insurance business in Montreal, going later to the United States, where he spent six years in various departments of the coal trade, principally at St. Paul and Chicago. By 1893, when

he returned to Canada, he had acquired a valuable business experience, which he first turned to account as director of a trading company in the Northwest Territory, and next in connection with the Laurentide Pulp and Paper Co., at Grand Mere, the largest concern of its kind in Canada. He resigned as general manager of the latter company in 1902 to accept a similar position with The Canadian Rubber Co. of Montreal, Limited. This was an important concern, with a history of nearly a half-century, but in need, as later events proved, of new ideas and a new policy, and the want was supplied through the suggestions of the new general manager, who had devoted his business life to the study of the systematic administration of affairs. The rubber company was completely reorganized, its capacity and its output increased, and the business replaced on a good dividend paying basis. At last year's annual meeting the company's appreciation of Mr. McGibbon's work was shown by his election to the office of vice president as well as general manager.

With all his devotion to system, Mr. McGibbon does not believe the same system applicable to every business; the special needs of each business must be dealt with. Nor does he believe in spending \$10 in system to save \$1 in business. Mr. McGibbon is a member of the Montreal Board of Trade and a vice president of the Canadian Manufacturers' Association. He is a director of the Canadian Appraisal Co. and interested in many other industrial concerns. He does not, as might be supposed, devote all of his time to business, but is a member of the St. James Club, the Canada Club and other social organizations. Mr. McGibbon was married, in 1897, to Miss Ethelwyn Waldoek, niece of Mr. Wallace Nesbitt, K. C., late a judge of the supreme court.

INDIA-RUBBER GOODS IN COMMERCE.**EXPORTS FROM THE UNITED STATES.**

OFFICIAL statement of values of exports of manufacturers of india-rubber and gutta-percha for the month of March, 1907, and for the first nine months of five calendar years:

Months.	Belting, Packing and Hose.	Boots and Shoes.	All Other Rubber.	Total.
March	\$113,038	\$44,395	\$343,756	\$501,189
July-February ...	801,238	918,569	2,321,211	4,041,018
Total	\$914,276	\$962,964	\$2,664,967	\$4,542,207
Total, 1905-06....	942,654	1,340,602	2,125,551	4,408,807
Total, 1904-05....	670,551	1,062,731	1,831,748	3,565,030
Total, 1903-04....	667,567	946,439	1,706,522	3,410,528
Total, 1902-03....	596,799	948,505	1,623,362	3,168,666

Exports of reclaimed rubber for the past nine months amounted in value to \$492,869.

RUBBER GOODS IN TURKEY.

IN a report on the imports of rubber goods into Turkey, the American consular office at Constantinople estimates the total annual value of footwear at between \$370,000 and \$430,000, and all other rubber goods at from \$150,000 to \$170,000. The footwear is supplied by the following countries, named in the order of importance in the trade: Russia, Germany, United States, Great Britain, France and Sweden. The share of the United States is estimated at \$85,000 to \$95,000; the brands covered are the "Candee," "Federal" and "Para," which are preferred by the wealthy classes on account of being light in weight and attractive in shape. Those who prefer heavier and more durable goods buy the Russian products. The imports of mechanical rubber goods, including sheet and tubing, are estimated at \$60,000; surgical goods, \$20,000; and waterproofs and raincoats, \$70,000.

POOR BURGESS!—Somebody was inquiring the other day as to what "para-typhoid" was from which Mr. Sturgess was suffering. According to expert evidence it was a type of Lowlands Malay-ria.—*Ceylon Observer.*

THE RUBBER TRADE AT TRENTON.

BY A RESIDENT CORRESPONDENT.

THE Joseph Stokes Rubber Co. filed with the secretary of state of New Jersey on May 11, 1907, a certificate amendatory of their articles of incorporation, increasing their capital stock from \$150,000 to \$250,000. The new issue is composed of \$150,000 in 6 per cent. cumulative preference shares, and \$100,000 in common stock. The increase was decided upon by the directors on April 26 and was ratified by the stockholders May 3. The company was incorporated March 17, 1897, with a capital of \$50,000. The growth of business made necessary an extension of the equipment, and on October 6, 1905, the authorized capital was increased to \$150,000. The demands of an increasing trade have made this second increase necessary. According to the certificate filed there are 937 shares of preferred and 500 shares of common stock outstanding. The incorporators of the company were Joseph Stokes, William J. B. Stokes, Joseph O. Stokes, and Charles E. Stokes. The present officers are Charles E. Stokes, president, and Joseph O. Stokes, secretary. The latest increase in capital will be devoted to an extension of the hard rubber business of the company. Though they manufacture mechanical rubber goods, their principal work is turning out a full line of hard rubber articles. The factory is being operated several evenings each week. The company are putting in a new 125 H.P. boiler built by the Biggs Boiler Co., of Akron. They will also erect a brick fireproof vault 20x20 feet in which to store their large stock of dies.

The Eagle Rubber Cement Co. report business as prosperous. During the past three years they have been gradually extending their trade, and they now sell cement to all sections of this country, and export to Germany, France, and other countries. Adolph Biller is president of the company, and A. K. Leuckel secretary and treasurer. The cement is the invention of Mr. Biller, who formerly was with the Eclipse Cement and Blacking Co., of Philadelphia.

William P. Coldron, of Lebanon, Pennsylvania, has filed two suits in the United States circuit court at Trenton against the Empire Rubber Manufacturing Co., of this city, alleging infringement of patents. In his bill of complaint in the first case Mr. Coldron alleges that in 1902 he made a trade agreement with the Empire company by which the latter were to manufacture preserving jar rings with a machine on which the complainant owned the patent. This contract, he alleges, expired in May, 1905, but since that time the Empire company have continued to use the machine and to make the rings in violation of the contract. The second suit is similar. It involves a machine for the manufacture of "lipped" sealing rings for fruit jars. In this case the allegations are practically the same as in the other. The Empire company have not yet filed an answer.

City Treasurer W. J. B. Stokes, of the Trenton, Joseph Stokes, and Home rubber companies, is on an extended trip through the West, combining business with pleasure. He planned to visit Utah, Nevada, California, and Oregon, returning by way of Minneapolis and Chicago, and is expected to return to Trenton about June 8.

THE RUBBER TRADE IN SAN FRANCISCO.

BY A RESIDENT CORRESPONDENT.

THE Sterling Rubber Co., now located in their new and more commodious quarters at No. 301 Market street, are beginning to receive some shipments of goods from the East. The president of the company, Mr. W. M. Gibson, at present in the northern part of the state, reports that territory in a flourishing condition. The demand is growing for all lines and especially in sundries better prices are being had and the quality of goods demanded is almost always the best to be obtained. This company has secured the state agency for the Balata belt, which is

proving a good seller. Mr. A. B. Nichols, coast representative of the New York Leather Belting Co., reports from the state of Washington that there are 45 mills throughout the Aberdeen district using balata belts.

The Bowers Rubber Works commemorated the first anniversary of the San Francisco fire by sending out their large new catalogue and another illustrated booklet showing the new works which they have built at Black Diamond. Mr. Chase reports for the firm that they are extremely busy in all lines.

Mr. Rumsey, representative of the James W. Byrnes Hose and Belting Co. (St. Louis), recently visited the trade in San Francisco. Also Mr. Gibbs, representing the Manhattan Rubber Manufacturing Co. (New York).

Mr. U. R. Grant, one of the best known men in the local rubber trade, and for many years manager of the Gorham Rubber Co., has become outside representative of the new branch of the Pennsylvania Rubber Co., which has been established in San Francisco. Mr. L. L. Torrey, who formerly represented this company on the coast as traveling salesman, will take charge of the new branch as inside man. The new store is located at No. 512 Mission street. It will carry a full line of rubber goods and will also have a tire repair plant.

Mr. Frank S. Roberts, formerly traveling salesman for the Seattle branch of the Gorham Rubber Co., has come to take the position left vacant by the resignation of Mr. Grant, the former manager. George W. Wright has been sent out by The B. F. Goodrich Co. to locate with the Gorham Rubber Co., who handle the Goodrich tires, to look out after the trade in the West.

Mr. R. H. Pease, president of the Goodyear Rubber Co., on his return from his Eastern trip, states that he finds conditions at home very good. "Things are getting down to the normal again," he said. "We had great difficulty for a while in getting ducks, drills and sheeting with which to work, but these are being turned out now so that we can go ahead as usual. Business for April of this year has been better than ever before, and prospects for the general trade in California are very favorable, although, of course, at present the street car strike has made business dull in San Francisco, and while that lasts we are simply turning our attention to the country trade." This company has just got its new \$7,000 press in operation and is now beginning to work on the big order for 700 concentrated belts which they landed a short time ago.

Joseph V. Selby, Pacific coast representative of the Boston Woven Hose and Rubber Co., states that the business outlook for the rubber houses, and in fact, all kinds of commodities, was never better than at the present time. This is true not only in the mechanical rubber lines, but in all lines of the business. The business conditions here, he said, are away beyond normal, and the outlook is that they will remain so for a long time to come.

Mr. Chase, of the Bowers Rubber Co., reports that the work of constructing their new permanent quarters on Sacramento street is making progress, and that they expect to occupy it by the first of June. They are working our plant day and night, such is the demand for goods, making up for back orders and trying to keep up with the current business.

Max E. Licht, a well known local shoe man, says, in relation to the rubber shoe trade during the recent rainy season: "People wore rubber overshoes who had never worn them before. As a rule the ordinary man in San Francisco, and women, too, go through the winter without investing in a pair of rubber shoes, but it was not that way this year, and along toward the close of January when it began to look as though the rainy weather never would quit, there was such a call for rubber goods that every store in the city was completely out of stock."

[CORRECTION.—In the last issue of THE INDIA RUBBER WORLD (page 255) Mr. H. W. Bogen, of No. 766 Golden Gate avenue, who handles exclusively the Continental Caoutchouc Co.'s tires, was inadvertently referred to as the Pacific coast representative of another tire company.]

THE RUBBER TRADE AT AKRON.

BY A RESIDENT CORRESPONDENT.

CHARLES C. GOODRICH, a son of the late Dr. B. F. Goodrich, founder of The B. F. Goodrich Co. and present assistant general superintendent of the company's plant here, has announced that he will tender his resignation, to take effect on January 1. Shortly afterward Mr. Goodrich will leave with his family for the East and will take up his permanent residence probably in New York. His magnificent home, "Westwood," in this city, has been sold. As his reason for resigning, Mr. Goodrich states that under the terms of his mother's will he is appointed administrator of her large estate, which is located in several of the eastern states, and his entire attention is needed to properly care for the estate. Mr. Goodrich was recently elected a member of the Akron city council and will, he says, serve out his full term before leaving. Mr. Goodrich was born in Akron and has lived here during the greater part of his life.

Along with the announcement that the Miller Rubber Co. have purchased property adjoining their factory for building purposes, comes the report that the new structure, which will be erected within a short time, is for the purpose of affording room for the manufacture of tires, a branch of the industry in which the company has not been engaged heretofore.

The Byrider Electric Auto Co., incorporated under the laws of Ohio on May 3, with \$60,000 capital, includes W. A. Byrider and James A. Swinehart, the patentees of the "Sidewire" vehicle tire, which, by the way, is known in Europe as the "B. & S." tire, from the names of its inventors. The new company has purchased a plant at Cleveland and begun the manufacture of cars. The major portion of the stock is held by Mr. Byrider and his brother.

RUBBER INTERESTS IN EUROPE.

GREAT BRITAIN.

THE Hood Rubber Co., American rubber footwear manufacturers, have established an European agency in London, at 141 High street, Shoreditch, in charge of Mr. C. W. Randall.

The St. Helens Cable and Rubber Co., Limited, have lately outfitted a new factory at an outlay of about £10,000. A feature of the new plant is that the electric drive system has been adopted for all their machinery.

Johnson & Phillips, Limited, manufacturers of insulated wires and cables, reported profits for 1906 of £33,164, notwithstanding the hindrance to business from an extensive fire early in the year. New fireproof buildings have been erected at Old Charlton which bring their capacity up to the former limit. A dividend of 7 per cent. on the ordinary shares was declared; there are no preference shares.

The Leyland and Birmingham Rubber Co., Limited, is making a rubber cored golf ball, the core being referred to as wound with special machinery.

Mr. James Tinto, managing director of the Irwell and Eastern Rubber Co., Limited (Salford, Manchester), and who has been elected chairman of the India Rubber Manufacturers' Association for the current year, is spending a few months in South Africa on business.

FRANCE.

THE Société Lyonnaise de Caoutchouc Souple et Durci are increasing their capital from 425,000 to 1,000,000 francs.

A company styled "Le Sans Valve" has been formed in Paris, at 22 Quay de Béthune, with 300,000 francs capital, to exploit a pneumatic tire tube without valves.

The dividends payable April 17 from the profits for the last business year of Etablissements Hutchinson, the principal footwear manufacturers of France, were 30 francs per share (10 per cent.) on the preference and 25 francs (8 1-3 per cent.) on the ordinary shares.

The capital stock of Etablissements J. B. Torrilhon (Clermont-Ferrand) has been increased from 4,000,000 to 6,000,000 francs [= \$1,158,000], by the issue of 20,000 shares of 100 francs at 125 francs, the issue being reserved to the former shareholders. Their shares have been quoted recently at 159. Dividend for the past year, 6 per cent.

The tire manufacturers, Falconnet-Perodeaud, realized a net profit of 294,897.15 francs [= \$56,915.15] in the last business year and disbursed a dividend of 8 per cent. on the capital of 1,700,000 francs. The capital is to be increased to 2,000,000 francs [= \$386,000].

A recent number of *La Technique Automobile* (Paris) illustrates five new types of spring wheels, and almost every issue of that estimable paper contains as many or more new and ingenious wheels.

GERMANY.

THE Continental Caoutchouc- und Gutta-percha-Compagnie (Hanover) declared a dividend of 40 per cent. out of earnings for the last business year, the same as for the year before. Their capital now amounts to 6,000,000 marks [= \$1,428,000].

The Lohringer Gummiwerke G. m. h. H., at Metz, has been registered with 140,000 marks [= \$33,200] capital, to manufacture rubber goods. Dominick Bailier is manager.

Vereingte Berlin-Frankfurter Gummiwaaren-Fabriken have concluded a prosperous business year, the dividend remaining at 9 per cent. The capital is now 3,500,000 marks [= \$833,000], having been increased during the year for the purpose of acquiring the H. Schweider Sächsische Gummi- und Guttaperchawaaren-Fabrik in Dresden, at a cost of 686,627 marks. The Berlin-Frankfurter company are now operating five factories. THE INDIA RUBBER WORLD, June 1, 1905—page 315, reported their purchase of the C. Schwanitz & Co. stock company, in Berlin, whose factory they have since continued at work.

NORWAY.

THE organization is reported of the Viking Gummi-Kompagnie, at Christiania, to manufacture goloshes and india-rubber goods generally, with a view to beginning operations before the end of 1907.

SWEDEN.

THE waste rubber trade in Sweden, owing to the large consumption of *galoches* in that country, has developed important proportions. Gunnar Hirsch, of Stockholm, is one of the principal dealers in waste rubber in Sweden, doing a large business in various kinds of waste, but particularly in old shoes.

The Aktiebolaget Continental Caoutchouc Compagnie has been registered at Stockholm, with a capital of 25,000 kronen [= \$6,700], and the power to increase to 75,000 kronen, to deal in rubber goods. Erik Crispin Lundin is manager.

RUSSIA.

THE Russian-French India Rubber Works "Prowodnik," at Riga, during 1906 produced rubber footwear of the value of 15,185,976 rubles, and mechanical, surgical and other rubber goods valued at 6,085,000—a total of 21,270,976 rubles [= \$10,994,952.64]. Beginning work in 1889, with 500,000 rubles capital, the amount has increased to 7,000,000 rubles, with reserves amounting to 6,085,000. The production of footwear has increased from 500 pairs daily, in 1890, to 35,000 to 40,000 pairs at present.

PROCESS OF RECLAIMING RUBBER.

THE process of recovering rubber from rubber waste, patented by William A. Kōneman, of Chicago, consists in boiling the waste material, reduced to a finely divided shape, with the addition thereto of a suitable proportion of mixable hydrocarbon in a mineral-acid solution containing a halogen salt of the alkaline group, such as sodium or calcium chloride, and removing the dissolved and decomposed fiber. The rubber remaining is boiled in a solution of alkaline salt, and washed and dried. The hydrocarbon referred to may be tar, pitch, resin or balsam.

News of the American Rubber Trade.

SALE OF MILWAUKEE RUBBER WORKS.

THE assets of the Milwaukee Rubber Works Co. (Cudahy, Wisconsin), in bankruptcy, were purchased on May 6, at a sale authorized by the referee in bankruptcy, by parties who will continue the factory in operation under the style Federal Rubber Co. Additional land has been secured and it is planned to triple the capacity of the plant by adding buildings and equipment to the cost of approximately \$100,000. The new company expect to control the rubber reclaiming process recently patented by W. F. Koneman, of Chicago, for which a special plant is now being constructed. The details of the new corporation have not been perfected, but it is expected that the capital stock of the Federal Rubber Co. will amount to nearly \$1,000,000, subscribed by the wealthiest citizens of Milwaukee, of which city Cudahy is a suburb.

The Milwaukee Rubber Works Co. was incorporated March 3, 1903, under the laws of Wisconsin, with \$100,000 capital, and in the same year erected a factory and began the manufacture of tires and mechanical goods. On March 21, 1906, a petition in involuntary bankruptcy was filed against the company by William Becker (since deceased) and others. Mr. Becker, who had become president a year or more before, had a claim against the company of \$100,000 for money advanced. The Milwaukee Trust Co. was appointed receiver in bankruptcy and the factory was continued in operation under orders from the court. At the first meeting of creditors the Milwaukee Trust Co. was elected trustee. The rubber company's assets were appraised at \$166,935.35½ and the liabilities at \$254,369.68.

W. W. Wildman, who latterly was general manager of the old company, will fill the same position with the Federal Rubber Co., incorporation papers for which were filed on May 10.

TYER RUBBER CO.—FACTORY ENLARGEMENT.

THE Tyer Rubber Co. (Andover, Massachusetts) are planning to make extensive additions to their factory this summer, and have already placed the contract for the new buildings which Marr Brothers, of Boston, the architect for the same being Henry J. Preston, who designed their present factory. The additions include a general enlarging of their entire plant and call for additional washers, sheeters, mills, calendars, vulcanizers, presses, and increased machine shop facilities, together with another cross compound condensing engine, cooling tower, and additional vacuum pump, and cistern of reinforced concrete holding 90,000 gallons, connected with another fire pump. The completed fire protection system will permit 18 streams of water to be played upon any part of the building. The same sprinkler system will be installed in the new building as in the old. The entire plant will be lighted electrically, and part of the machinery will be run by electricity. The steam boiler capacity will be 1,000 H.P. The present No. 1 mill will be raised one story; the No. 3 mill, five stories high, will be extended 100 feet, and there will be an additional foundry, new compounding room, enlarged engine room, and additions to the sun bleaching and laboratory. The old cement house will be replaced by a new one built of brick, without the use of any wood. The contract calls for the completion of this work by August 15, after which the company will be using four acres of floor space in the manufacture of "Tyrian" rubber goods and give employment to about 800 operatives.

MATTSON RUBBER CO.—CHANGE OF LOCATION.

THE Mattson Rubber Co. are equipping a model rubber factory at Lodi, New Jersey, for the manufacture of their patented specialties, a general line of mold work, and unvulcanized stocks. The company, having purchased the property, are fitting up the buildings in first class condition, including an up-to-date

automatic sprinkler system. The works are expected to be in operation by July 1. The Mattson Rubber Co. had occupied part of the extensive factory of the Hardman Rubber Co. (Belleville, New Jersey) prior to the destructive fire of March 1 last, since which time they have been running a temporary plant at Jersey City, all orders having proper attention in the meantime. The company maintain a New York distributing depot for automobile tire repair materials at No. 981 Eighth avenue. Lodi is on a branch of the Passaic river, not far from Passaic, N. J., which has become an important rubber manufacturing center.

Hardman Rubber Co., manufacturers of hard rubber goods, advise THE INDIA RUBBER WORLD that they are rebuilding their factory, which was burned at Belleville, and expect to have it complete and equipped and ready for work by July 1.

INCREASE OF CAPITAL AT LA CROSSE.

At a recent meeting of the shareholders of La Crosse Rubber Mills Co. (La Crosse, Wisconsin) it was voted to increase the capital stock to \$500,000. This company was incorporated early in 1897, with \$40,000 capital, and began operations in April of that year, manufacturing mackintoshes. The business of the company has grown steadily from the beginning, under the direction of Mr. George S. Andrus, the general manager. In October, 1905, the manufacture of rubber footwear was taken on, and various other additions to the list of products have been made from time to time.

ST. PAUL RUBBER CO.—INCREASE OF CAPITAL.

THE St. Paul Rubber Co. (St. Paul, Minnesota) have amended their articles of incorporation to provide for an increase of capital stock from \$75,000 to \$150,000, of which it is understood that \$100,000 has been paid in. This business was organized 30 years ago as the first rubber jobbing house in the Northwest, west of Milwaukee, and has experienced a steady growth from the beginning. They carry lines of rubber footwear and clothing and druggists' sundries, and are northwestern agents for the American Rubber Co.

MANUFACTURED RUBBER CO.'S ANNUAL.

At the annual meeting of shareholders of the Manufactured Rubber Co. (Philadelphia) on May 8, at the registered offices of the company in Camden, New Jersey, the directors were reelected—Clayton E. Platt, John S. Arndt, George G. Peterson, J. P. Cunningham, Edward J. Dumeé and G. H. B. Martin. The net profits for the year ending January 31 last were \$15,307. The company operates a rubber reclaiming plant at Metuchen, N. J.

THE TRADE AT OMAHA.

THE Omaha Rubber Shoe Co. (Omaha, Nebraska), incorporated in January, 1902, to wholesale rubber footwear, have put in "everything in rubber," and are now agents for well known factories in different lines. President E. H. Sprague states that the published reference to the enlargement of their store was incorrect, though they need more room and are looking for larger quarters.

FAILURE IN THE JOBBING TRADE.

At a meeting of some of the larger creditors of Glaskin-Comstock Co., wholesalers of rubber goods and mill supplies, of Duluth, Minnesota, a committee was appointed to investigate their affairs, composed of Raymond B. Carter, who has been connected with The Gutta Percha and Rubber Manufacturing Co., and John E. Fowler, of the St. Paul Rubber Co. The committee valued the assets of the firm at \$48,836.53, liable to depreciation to the extent of \$5,500, with liabilities of \$49,361.98. In accordance with the committee's report, the creditors have decided that the business should not be continued but that

the stocks should be disposed of as promptly as possible. The concern here mentioned was incorporated January 17, 1905, with \$50,000 capital, to succeed the Thomson-Glaskin Co., incorporated four years earlier. H. L. Glaskin, active in the management throughout, was formerly the Duluth representative of W. S. Nott Co., the Minneapolis rubber jobbers.

A "COLORADO RUBBER" FAILURE.

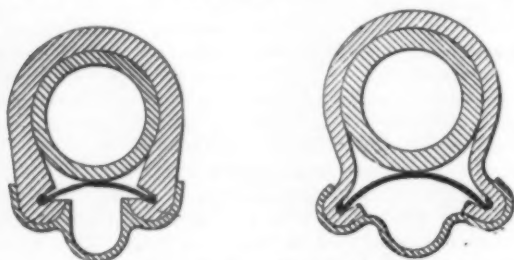
THE property of the American Production Co., at Buena Vista, Colorado, consisting of land and three frame buildings, was offered at public sale on April 20 and brought \$247—barely enough to pay the taxes due. The engines and machinery at one time on the premises were sent away several months before. The company was incorporated May 12, 1905, under the laws of New Jersey, to extract rubber from the Colorado "rabbit weed," with \$50,000 capital authorized. The incorporators were mainly Pittsburgh people.

NEW ENGLAND RUBBER CLUB "LADIES' NIGHT."

THE first "ladies' night" in the history of the New England Rubber Club was given on the evening of May 10 in Chipman Hall, Masonic Temple, Boston, and was well attended, there being about 140 ladies present. A program of high class vocal and instrumental music was rendered by some of the best talent in Boston. A feature of the entertainment was a series of performances on the Choralcello, a new instrument in which electricity is involved in musical tone production through the vibration of piano strings.

A "CLINCHER" TIRE INFRINGEMENT SUIT.

IN *re* Boston Woven Hose and Rubber Co. v. Pennsylvania Rubber Co.—a suit for infringement of United States patent No. 466,577 (for a pneumatic tire), issued January 5, 1892, to Frederick Schrader, of Philadelphia—the *prima facie* evidence for complainant and evidence for defendant have been taken, and it is understood that evidence for complainant in reply is



TIRE CROSS SECTIONS—SCHRADER'S PATENT.

being taken. The suit was filed May 26, 1906, in the United States circuit court for the district of Massachusetts, and the defendant filed answer December 4, 1906. The invention covered by the Schrader patent relates to a flexible inflatable tire capable of being readily and securely fastened to the wheel. Under the specifications the tire may be made in various forms, two of which are suggested by the accompanying drawings. The rim is made with a central annular groove, with annular grooves on each side, which serve as pockets for the reception of the tire cover. On the inner side of each edge of the cover is an annular groove, the two serving for the reception of a flexible plate or band, designed to stiffen when tension is applied, as by the inflation of the inner tube. Various means are specified for drawing together the ends of the securing band, to holding the tire more securely in position, and for providing for the inflation of the tire, but the salient features of the invention are indicated by the cuts. It has been suggested in the trade that if the Schrader patent is upheld it may prove broader in scope than would at first appear—affecting, in fact, the status of all tires of the "clincher" or like types except those held on rims solely by the fact of inflation. The Schrader patent will terminate on January 5, 1909.

LOSSES BY FIRE.

FIRE on the morning of April 29 destroyed a wing of the factory of the Housatonic Rubber Works (Bridgeport, Connecticut), in which were contained the drying rooms for stock. The fire started in a waste paper basket in the office. The structure destroyed was of wood, 40 x 60 feet in size, and will be replaced by a brick building of the same dimensions. Loss on the building and reclaimed rubber about \$11,000, fully insured. The Housatonic company have been reclaiming rubber for about 25 years. J. A. Wilson is president and P. A. Wilson secretary. A. G. Spalding & Brothers' Manufacturing Co. advise THE INDIA RUBBER WORLD in regard to a fire, reported on April 20: "The fire we had at our Stoughton factory was not a very bad one. It has been all fixed up and we are running again. It is not our intention to move that plant." Reference is made to the golf ball factory acquired from the Stoughton Rubber Co.

NEW INCORPORATIONS.

ON May 1 the business of Charles Niedner (Malden, Massachusetts), manufacturer of underwriters' linen fire hose and cotton fabrics for insulation, was turned over to the Chas. Niedner's Sons Co., a Massachusetts corporation of which the president and treasurer is William Niedner, hitherto the general manager of the business, and the secretary is Charles L. Niedner, who has been in charge of the manufacturing end.

Wallace L. Gough Co., May 11, 1907, under New Jersey laws, to deal in crude india-rubber, gutta-percha, and balata; capital, \$50,000. Incorporators—W. L. Gough, E. E. Hallick, and H. M. Gough. The new corporation takes over the business of Wallace L. Gough & Co., rubber merchants, at No. 108 Water street, New York, and No. 186 Devonshire street, Boston.

Martin-Evans Co., May 3, 1907, under New York laws; rubber tires and automobile supplies; capital, \$30,000. To take over the business of the New York-Broadway Rubber Tire Co. (incorporated in New Jersey, November 7, 1901), with a plant at No. 1186 Bedford avenue, Brooklyn, N. Y. Incorporators: Delmar D. Martin, general manager of the old company; M. L. Martin, and F. E. Evans.

The Traver Blowout Patch Co. has been incorporated under New York laws, with \$10,000 capital, to manufacture devices for the protection of pneumatic tires. Directors: M. McNamara, P. McNamara, L. F. Walter, Jr., and Peter Schmunk. Office: No. 1265 Broadway, New York.

Articles of incorporation have been filed, under the Massachusetts laws, by Samuel Cabot, Incorporated, with \$315,000 capital, to carry on the business of paints and pigments, founded by the late Samuel Cabot, of Boston. H. B. Cabot is president and E. Cunningham treasurer. This house has long done an important business in supplying lampblacks for the rubber manufacturers.

CHANGES OF ADDRESS.

THE Seamless Rubber Co. (New Haven, Connecticut) announce that owing to the increase of business it has been necessary to remove their New York quarters from No. 111 Chambers street to No. 206 Broadway, at which place they will carry a complete stock of goods.

The Gutta Percha and Rubber Manufacturing Co. (New York) have changed the location of their Chicago branch from Nos. 96-98 Lake street to Nos. 224-226 Randolph street.

Goodyear's India Rubber Selling Co., recently incorporated as the sole selling agents for Goodyear's India Rubber Glove Manufacturing Co., have removed their Chicago office to No. 169 Jackson boulevard (Royal Insurance building). A. W. Smith is the company's Western representative.

"BETTY."

AMONG the recognized harbingers of spring, in this country at least, is the annual appearance of a new "Goodrich Girl." This year's addition to the long list of attractive pictures coming under this heading is "Betty," who does not suffer from

comparison with her predecessors. The picture, as distributed by The B. F. Goodrich Co. to their friends, is a lithographed copy of a painting in oil by Philip Boileau, and everybody connected with the production may well feel pleased with the result.

THE BROWN SHOE CO. (ST. LOUIS.)

THIS is the first St. Louis house to secure space for an exhibit at the World's Shoe and Leather Fair, to be held in Boston in July, 1908. They will exhibit particularly their "White House" shoes for men and women, and "Buster Brown Blue Ribbon" shoes for boys and girls.—The Brown Shoe Co. report satisfactory conditions in their rubber footwear trade, they having taken about their accustomed volume of orders for fall shipment, consisting of "Goodyear Glove" goods for first grade and "Jersey" for second grade.

ACKER PROCESS CO. TROUBLES.

A PETITION in involuntary bankruptcy has been filed in the United States district court in New Jersey, against The Acker Process Co., chemical manufacturers of Niagara Falls, N. Y., and Thomas F. Bedle, of Jersey City, appointed receiver. The company was incorporated April 1, 1899, under the New Jersey laws, with \$3,000,000 capital. The recent financial trouble is attributed to the fire which destroyed their plant on February 26. The creditors held a meeting on May 20 to prove their claims and appoint a trustee. The company had decided not to rebuild, but some of their patents on processes may be taken over by other companies in the same line of business.

TRADE NEWS NOTES.

THE sale of the property of the Electric Rubber Manufacturing Co. (Rutherford, New Jersey), advertised by the receivers to take place on May 3, was postponed until Friday, May 31—a date too late for a report of the result to be given in this issue.

Charles M. Evans, of Lawrence, Massachusetts, has sold his shoe store, to devote his attention wholly to the Globe Mills Rubber Co., of that city, in which he has been interested from its beginning. Mr. Evans has been mentioned in THE INDIA RUBBER WORLD as having made trips securing orders for the rubber company.

Contracts involving \$100,000, it is reported, have been awarded for enlarging the plant of the Midgley Manufacturing Co. (Columbus, Ohio), makers of steel wheels and motor car wheel rims, the president of which is Thomas Midgley, consulting engineer for the Rubber Goods Manufacturing Co.

The Diamond Rubber Co. (Akron, Ohio) have established a general agency for their tires at Pittsburgh, Pennsylvania, at No. 16 Wood street, in part of the building occupied by the Pittsburgh Rubber and Leather Co., a selling concern organized in 1901, to handle the Diamond Rubber Co.'s products.

Thomas Calvert has been appointed receiver of the partnership property of Henry G. Dorsch and Christian F. W. Reiss, brothers-in-law, who did business as the Replique Rubber Tire and Shoe Co., No. 346 West Fifty-third street, New York, in a suit brought by Dorsch for a dissolution and accounting. The business dates from November 10, 1906. Dorsch values the stock at \$6,000 and the good will at \$10,000.

The Consumers' Rubber Co. (Bristol, Rhode Island), who are now devoting themselves particularly to the insulated wire trade, are reported to have added to their equipment lately 80 new braiding machines, increasing the number in their plant to upwards of 300.

Dr. William M. Habirshaw, of the India Rubber and Gutta Percha Insulating Co. (New York) is spending a two months' vacation abroad, mainly in England.

Rickaby Rubber Manufacturing Co. (South Framingham, Massachusetts), recently organized to reclaim rubber, are reported to be doing a good business, producing a high grade of goods by special processes.

TRADE NEWS NOTES.

THE directors of the Boston Woven Hose and Rubber Co. have declared the regular semi-annual dividend of \$3 per share on the preferred stock, payable June 15, 1907, to stockholders of record June 5.

At the annual meeting of the shareholders of the Consolidated Rubber Tire Co. (New York) at the registered offices of the company, at Jersey City, New Jersey, on May 6, the board of directors was re-elected, and no change was made subsequently in the list of officers.

Rubber manufacturers are likely to be interested in the subject of lubricating materials for machinery, as treated very fully by Professor W. F. M. Goss, in a booklet entitled "A Study in Graphite," including the results of numerous comprehensive tests, and published by Joseph Dixon Crucible Co., Jersey City, New Jersey.

Joseph Hollins, Bathurst street, Toronto, has been appointed agent for David Bridge & Co., makers of india-rubber machinery, of Castleton, Manchester, England.

A new treasury department regulation permits the allowance of a "drawback" on the exportation of asbestos packings made by the H. W. Johns-Manville Co. (New York), with the use of asbestos cloth, equal in amount to the duty paid on the imported material used, less the legal deduction of 1 per cent.

The Stamford (Connecticut) Manufacturers' Association is interesting itself in insurance rates on local factory property. The president of the association is Edward Sawyer, president of the Atlantic Insulated Wire and Cable Co., and the secretary-treasurer is William F. Gillespie, manager of the Stamford Rubber Supply Co.

The Baltimore Stamp and Stencil Trade Association has been organized, with a view to establishing and adhering to a uniform price for staple goods in the lines of rubber stamps, stencils, and other like products. The association started with seven Baltimore firms enrolled as members.

A quarterly dividend of $1\frac{1}{2}$ per cent. on the preferred shares of the Manufactured Rubber Co. is payable on June 1.

The Diamond Rubber Co. (Akron, Ohio), whose purchase of the Bryant Steel Wheel and Rim Co. (Columbus, Ohio) has been reported in these pages, are erecting a building at Akron to which the rim factory will be removed.

The regular quarterly dividend of $1\frac{3}{4}$ per cent. on the preferred shares of the Rubber Goods Manufacturing Co., is payable on June 15. The amount of such shares outstanding is \$10,351,400, of which all but about \$3,000,000 are held in the treasury of the United States Rubber Co.

A certificate has been filed with the secretary of state of New York announcing the voluntary dissolution of the Michelin Products Selling Co. (incorporated January 16, 1906), their business as representative in America of Michelin et Cie., the tire manufacturers, having been succeeded by that of E. Lamberjack & Co., Incorporated, of New York.

The Globe Mills Rubber Co. (Lawrence, Massachusetts) are extending their production. Among their specialties is a line of arctics which are referred to as being both excellent in quality and low in price.

The Hyde Park Rubber Co. (Hyde Park, Massachusetts), proofers of cloth for the trade, are reported busy, having suffered no setback from the fire in their factory in March.

The heels and soles and other specialties made by the B. & R. Rubber Co. (North Brookfield, Massachusetts) have met with a demand that is keeping the factory fully employed, although it is one of the newest in the field.

The Andover Rubber Co. (Andover, Massachusetts) are now well under way turning out a line of seamless goods. They have a well arranged and equipped plant with everything new, and President Matthew S. Hannan is an experienced man in this branch of the industry.

TRADE NEWS NOTES.

The Woonsocket Rubber Co. (Woonsocket, Rhode Island) have sold a tract of land on Fairmount street, adjoining their plant, to Jules Desurmont et fils, important hosiery manufacturers at Turcoing, France, who are erecting a factory on it. The deeds transferring the property were signed on March 28, covering 172,175 square feet of land.

The sale of the "Ball Band" rubber fastener is controlled exclusively by Dunham Brothers (Brattleboro, Vermont) in the New England States, Greater New York and Canada, east of the Ottawa river.

The American Dunlop Tire Co. is seldom mentioned by name now that it has become subsidiary to a larger company, but that the corporation still exists is indicated by the recording, in a New York court, of a judgment in its favor for \$1,027.

Messrs. James and Humphrey O'Sullivan, of the O'Sullivan Rubber Co. (Lowell, Massachusetts) started recently on a six months' business tour of the country to extend as far as the Pacific Coast.

The Garlock Packing Co. (Elmira, New York) now have offices in all the States in the Australian commonwealth.

The "Bullet Proof" duck lumbermen's line of the American Rubber Co., with the red label, has a great reputation for toughness.

E. Bers & Co. have discontinued their Western branch and all their business in rubber scrap in future will be transacted through the Philadelphia office.

President Colt, of the Woonsocket Rubber Co., recently sent a substantial check to the baseball team of the "Alice" mill of that company—the team which last year won the championship in the league of clubs representing the various factories at Woonsocket.

A feature of a recent "ladies' night" given by the Springfield Automobile Club was a theater party. Those attending it were invited, after the play, to a supper tendered by the Fisk Rubber Co. at the Worby Hotel. The special theater program on this occasion was an artistic production of the advertising department of The Fisk Rubber Co.

M. P. Fillingham, who has opened offices at No. 114 Liberty street, New York, as consulting engineer to the india-rubber trade—planning and reconstructing factories and designing machinery—brings to his new field a practical experience gained through several years' connection with two of the most important rubber machinery firms in the country.

The Textile-Finishing Machinery Co. (Providence, Rhode Island) have removed their general offices to the Howard building. Entrance room 321.

An importation at New York of gallalith in sheets was assessed for duty as 20 per cent *ad valorem*—the rate for "unenumerated manufactured articles"—which was protested against, on the ground that the rate should have been 10 per cent, as a raw material not enumerated in the Tariff act. The appraisers held that, while gallalith in blocks or sheets was the crudest form in which it could be imported, it was properly dutiable at 20 per cent.

Regarding the rubber rollers made by the American Wringer Co. (New York) for rotary lithographic presses, the Brett Lithographing Co. write: "Their printing qualities are quite as good as the 'leather' rollers, and there are several distinct advantages, the rollers being perfectly true, the ink is better distributed, the fountain is set more easily and quickly, and less color is used, and much time is saved in washing up."

William J. Sturgis has resigned the position of secretary of the Seward Rubber Co. (Berlin, Connecticut).

Every tire manufacturer is on the outlook for tires of his production which have been run for long distances. The record to date, it appears, is held by the Diamond Rubber Co., one of

whose customers, in Rhode Island, claims to have used a tire on 30,500 miles of road without any repairs.

Mr. H. F. Siegrist, formerly treasurer of the Swinehart Clincher Tire and Rubber Co. (Akron, Ohio), has left the concern and is succeeded by Mr. Frederick Boron. By the way, Mr. James A. Swinehart, who has been in Europe for a month or more, has just returned after having had a most successful business trip so far as Swinehart tires are concerned. The company are adding new machinery to their plant, which will enable them to increase their output one-third.

New York has still another place where tires may be repaired—The Michelin Tire Repair Works, at No. 242 West Forty-first street, run by Mr. F. D. Bable, an expert in tire manufacture and repair.

PERSONAL MENTION.

DR. ALLEN HOLMAN SUGGETT, of California, has returned lately from an extensive visit to the rubber plantations in Ceylon and the Federated Malay States, preparatory to devoting his attention entirely in future to rubber planting in Mexico, where he is a director in two companies—the Chiapas Rubber Plantation Co. and the Rio Michel Rubber Plantation Co. Dr. Suggett reports that in consequence of his observations abroad he is even more hopeful of the rubber planting outlook in Mexico.

UNITED STATES RUBBER CO.—AUDITOR'S CERTIFICATE.

WE have examined the books and accounts of the United States Rubber Co. and its subsidiary companies for the year ended March 31, 1907, and

We hereby certify that the accompanying consolidated general balance sheet and consolidated statement of income and profit and loss agree with the books of the companies, and correctly set forth the financial condition of the companies on March 31, 1907, and the results of their operations for the last fiscal year, and

That on that date the quick assets of the United States Rubber Co. and its subsidiary companies, including inventories of raw materials and manufactured goods on hand, exceeded all the liabilities other than capital stock and surplus accounts to the extent of \$12,406,220.29.

HASKINS & SELLS, Certified Public Accountants.

UNITED STATES RUBBER CO.'S SHARES.

TRANSACTIONS on the New York Stock Exchange for five weeks, ending on the dates appearing in the table below:

COMMON STOCK.

Week	April 27	Sales	400 shares	High	43	Low	42½
Week	May 4	Sales	735 shares	High	103¼	Low	102
Week	May 11	Sales	200 shares	High	72¾	Low	72
Week	May 18	Sales	1010 shares	High	41	Low	40
Week	May 25	Sales	4710 shares	High	40	Low	37
For the year—High 52½, Feb. 16; Low 36½, Mar. 26.							

FIRST PREFERRED STOCK.

Week	April 27	Sales	735 shares	High	103¼	Low	102
Week	May 4	Sales	510 shares	High	102¾	Low	101¾
Week	May 11	Sales	3177 shares	High	102¾	Low	99½
Week	May 18	Sales	756 shares	High	100¾	Low	100½
Week	May 25	Sales	4108 shares	High	100½	Low	99½
For the year—High 109½, Jan. 7; Low 99½, Mar. 25.							

SECOND PREFERRED STOCK.

Week	April 27	Sales	200 shares	High	72¾	Low	72
Week	May 4	Sales	735 shares	High	72¾	Low	71½
Week	May 11	Sales	200 shares	High	72¼	Low	72½
Week	May 18	Sales	100 shares	High	72¼	Low	72¼
Week	May 25	Sales	1400 shares	High	71½	Low	68
For the year—High 78½, Jan. 7; Low 68, Mar. 25.							

At the end of March, Professor Emilio A. Gældi, Ph.D., retired from the position of director of the Museu Gældi (the state museum at Pará), and returned to Europe. He has been succeeded by Jacques Huber, Ph.D., for many years chief of the botanical section at the museum, and the author of a number of contributions to our knowledge of the rubber species of the Amazon regions.

Review of the Crude Rubber Market.

ARRIVALS of rubber (including caucho) at Pará from May 1 to the 28th aggregated 2,340 tons, against 2,320 tons for the whole of May last year and 2,260 tons for the same month in 1905. Total arrivals for the crop year, ending June 30, are likely to exceed the preceding year's output by 2,000 tons or more, or about 6 per cent. The following table may be of interest for comparison:

PARÁ ARRIVALS—RUBBER AND CAUCHO—IN TONS.

	1903-04.	1904-05.	1905-06.	1906-07.
To December 31.....	13,470	13,300	14,690	14,720
To March 31.....	25,480	27,210	28,020	29,300
To May 31.....	29,080	31,590	32,840	36,220
To June 30.....	30,580	33,060	34,490	

[a—To May 28, 1907.]

Such an increase alone would not be sufficient to account for the decline in prices which was in progress for some time past, and has reached a lower level at this writing than has been recorded since the autumn of 1904. The crop year ending June 30, 1905, showed an increase of 8.2 per cent. over the preceding year, but this did not prevent an unprecedented high range of prices, which prevailed for an unusually long period. The normal condition in the Amazon region is a constantly increasing production, and the general condition in the consuming markets has been a rising price level. The increasing rate of production, measured by Pará exports, has been, during three periods of five years, as follows:

Five years, 1892-93—1896-97.....Average 16,090 tons
Five years, 1897-98—1901-02.....Average 26,380 tons
Five years, 1902-03—1906-07.....Average 33,170 tons

Fifteen years ago, at this date, THE INDIA RUBBER WORLD quoted fine new Pará at 70 cents. Meanwhile the Amazon output has doubled, and at times the then price has nearly doubled. Clearly the amount produced alone does not decide prices, but the pressure of demand for consumption has to be considered, and this it is more difficult to measure with accuracy or promptness. But such a decline as has now to be recorded is evidence of lessened activity somewhere.

An interesting feature of the market is the steady advance which has been seen in the prices of Africans as compared with Pará grades. Referring again to a period 15 years ago, the highest New York quotation for any African sort was 55 cents (for pinky Madagascar), and most of other Africans were selling at less than 40 cents. The best Africans have long been above the \$1 level, and Pará may yet lose the position of primacy as regards prices.

NEW YORK QUOTATIONS:

PARÁ.	June 1, '06.	May 1, '07.	May 29.
Islands, fine, new.....	120 @ 121	115 @ 116	110 @ 111
Islands, fine, old.....	none here	none here	none here
Upriver, fine, new.....	124 @ 125	117 @ 118	112 @ 113
Upriver, fine, old.....	125 @ 126	119 @ 120	114 @ 115
Islands, coarse, new....	64½ @ 65	67 @ 68	62 @ 63
Islands, coarse, old....	none here	none here	none here
Upriver, coarse, new....	90 @ 91	91 @ 92	87 @ 88
Upriver, coarse, old....	none here	none here	none here
Caucho (Peruvian) sheet	72½ @ 73	73½ @ 74	71 @ 72
Caucho (Peruvian) ball	84 @ 85	86 @ 87	83 @ 84
Ceylon, fine, sheet.....	150	135 @ 136	134 @ 135

AFRICAN.

Sierra Leone, 1st quality.....	97 @ 98	Lopori ball, prime....	103 @ 107
Massai, red.....	97 @ 98	Lopori strip, prime....	98 @ 99
Benguella.....	75 @ 76	Madagascar, pinky....	85 @ 86
Cameroun ball.....	76 @ 77	Ikelemba.....	none here
Accra flake.....	19 @ 20	Soudan niggers.....	90 @ 91

CENTRALS.

Esmeralda, sausage....	85 @ 86	Mexican, scrap.....	86 @ 87
Guayaquil, strip.....	70 @ 71	Mexican, slab.....	64 @ 65
Nicaragua, scrap.....	83 @ 84	Mangabeira, sheet.....	56 @ 68
Panama, slab.....	65 @ 66	Guayule.....	47 @ 48

EAST INDIAN.

Assam.....	93 @ 94	Borneo.....	39 @ 62
Late Pará cables quote:			
Per Kilo.		Per Kilo.	
Islands, fine.....	58 @ 60	Upriver, fine.....	65 @ 250
Islands, coarse.....	28 @ 750	Upriver, coarse.....	48 @ 700
Last Manãos advices:		Exchange.....	
Upriver, fine.....	68 @ 400	Upriver, coarse.....	4 @ 100
		Exchange.....	
		15¼ d.	

NEW YORK RUBBER PRICES FOR APRIL (NEW RUBBER).

	1907.	1906.	1905.
Upriver, fine.....	\$1.15 @ \$1.18	\$1.25 @ \$1.28	\$1.31 @ \$1.34
Upriver, coarse.....	.91 @ .94	.92 @ .95	.96 @ .99
Islands, fine.....	1.14 @ 1.16	1.22 @ 1.25	1.27 @ 1.30
Islands, coarse.....	.66 @ .68	.70 @ .74	.73 @ .77
Cameta.....	.71 @ .72	.72 @ .76	.76 @ .80

Statistics of Para Rubber (Excluding Caucho).

NEW YORK.

	Fine and Medium.	Coarse.	Total. 1907.	Total. 1906.	Total. 1905.
Stocks, March 31.....	Tons 105	20 = 125	395	343	343
Arrivals, April.....	1241	614 = 1855	759	1422	1422
Aggregating.....	1346	634 = 1980	1154	1765	1765
Deliveries, April.....	1110	593 = 1703	768	1154	1154
Stocks, April 30.....	236	41 = 277	386	611	611

PARÁ.

	1907.	1906.	1905.	1907.	1906.	1905.
Stocks, Mar. 30...Tons	985	136	829	810	905	275
Arrivals, April.....	3260	1900	1420	1165	1150	930
Aggregating.....	4245	2036	2249	1975	2055	1205
Deliveries, April.....	3735	1769	1753	1025	775	850
Stocks, April 30....	510	267	496	950	1280	355

ENGLAND.

	1907.	1906.	1905.
World's visible supply, April 30...Tons	3,487	3,282	2,403
Pará receipts, July 1 to April 30.....	28,695	26,164	24,676
Pará receipts Caucho, same dates....	5,075	4,355	4,364
Afloat Pará to United States, April 30	498	740	136
Afloat from Pará to Europe, April 30.	970	609	805

Plantation Rubber From The Far East.

WEEKLY CEYLON EXPORTS.

	Pounds.	Total, 1907	Pounds.
Jan. 1 to March 4.....	50,999	Same dates, 1906.....	93,828
Week ending Mar. 11..	5,096	Same dates, 1905.....	62,645
Week ending Mar. 18..	8,858	Same dates, 1904.....	30,553
Week ending Mar. 25..	2,426		24,062
2 weeks ending Apr. 8..	26,449		

NOTE.—Our figures, last month, up to March 4, showed Ceylon exports totalling 80,456 pounds. They included, however, 29,457 pounds of Straits and Malay rubber, now deducted. Subsequent reports embrace only Ceylon produced rubber. The total exports from Ceylon to April 8 (including Straits, etc.) amounted to 161,451 pounds.

EXPORTS FROM THE STRAITS.

PLANTATION Pará shipped from Singapore, January 1 to February 20, 167,433 pounds; from Penang, to February 14, 9,867 pounds.

AT THE AUCTIONS.

LONDON, March 26.—Offerings were 21½ tons of plantation rubber from the Straits and Malay States and 6 tons from Ceylon, mostly sold. The highest price was 5s. 11d. @ 5s. 11¼d. [= \$1.45] for 26 cases of fine block from Pears's Lanadron estate. Sales included 329 packages, averaging 5s. 6½d. [= \$1.34¼] pound, against 100 packages at 5s. 11d. [= \$1.44] one year ago. Fine hard Pará brought 5s. [= \$1.21 2-3].

LONDON, April 26.—The largest quantity of plantation yet offered was seen at to-day's auction—862 packages (over 46¼

tons), of which 379 were sold. Forty-five cases very fine block from Lanadron estates brought 5s. 10½d. to 5s. 11d. [= \$1.44].

LONDON, May 10.—About 357 packages Ceylon and Malay plantation rubber (over 18 tons) offered and 158 sold. Quality a little disappointing. Some slight advances over the former sales were noted for good lots. The highest price realized was 5s. 8¼d. [= \$1.38 1-3] for fine, pale crepe. Highest price one year ago, 6s. 2¼d. [= \$1.50½]. Para fine sold to-day at 4s. 9½d. [= \$1.16½]; same period last year, 5s. 3¼d. [= \$1.28¾]. Average price of Ceylon and Malay rubber to-day, 5s. 4½d. [= \$1.30¾]; one year ago, 5s. 11¼d. [= \$1.44½].

ANTWERP, March 21.—Straits Settlements biscuits sold for 15.50 francs [= \$1.35¾] per pound; crepe, 16.20 francs [= \$1.42]; Java plantation (*ficus*), various prices, up to 12.60 francs [= \$1.16].

Antwerp.

RUBBER STATISTICS FOR APRIL.

	1907	1906	1905	1904	1903
Stocks, Mar. 31 kilos.	725,538	641,650	323,945	700,735	271,884
Arrivals, April	304,873	392,199	651,928	179,098	605,743
Congo sorts	229,927	298,733	540,774	120,240	556,542
Other sorts	74,946	93,466	111,154	58,858	49,201
Aggregating	1,030,411	1,033,849	975,873	879,833	877,627

IMPORTS FROM PARA AT NEW YORK.

[The Figures Indicate Weight in Pounds.]

APRIL 26.—By the steamer *Grangeuse*, from Manaos and Para:

IMPORTERS.	Fine.	Medium.	Coarse.	Caucho.	Total.
Poel & Arnold.....	334,900	115,400	105,400	34,000 =	589,700
General Rubber Co.....	255,200	54,700	105,800	483,500	
A. T. Morse & Co.....	141,000	29,500	51,900	71,200 =	293,600
New York Commercial Co.	72,700	16,800	38,200	11,000 =	138,700
Neale & Co.....	12,900	4,600	48,600	700 =	66,800
C. P. dos Santos.....	23,200	3,600	38,100	..... =	64,900
Edmund Reeks & Co.....	1,300	500	18,100	13,400 =	33,300
Hagemeyer & Brunn.....	13,600	1,600	15,500	..... =	30,700
G. Amsinck & Co.....	5,000	.....	12,900	5,900 =	23,800
Total	859,800	226,700	434,500	206,000 =	1,727,000
MAY 3.—By the steamer <i>Benedict</i> , from Manaos and Para:					
Poel & Arnold.....	145,100	123,500	139,100	119,100 =	526,800
A. T. Morse & Co.....	144,300	36,100	118,600	7,100 =	306,100
General Rubber Co.....	51,000	21,700	62,800	43,700 =	179,200

PARA RUBBER VIA EUROPE.

	POUNDS.
APR. 25.—By the <i>Deutschland</i> =Hamburg:	
General Rubber Co. (Coarse)....	33,500
Poel & Arnold (Fine).....	7,000
APR. 29.—By the <i>Patricia</i> =Hamburg:	
General Rubber Co. (Fine).....	19,000
A. T. Morse & Co. (Coarse)....	3,500
MAY 1.—By the <i>Georgic</i> =Liverpool:	
New York Commercial Co. (Coarse)	11,500
Poel & Arnold (Coarse).....	22,500
MAY 1.—By the <i>Celtic</i> =London:	
Poel & Arnold (Coarse).....	45,000
MAY 1.—By the <i>Caronia</i> =Liverpool:	
General Rubber Co. (Coarse)....	88,000
Poel & Arnold (Coarse).....	4,500
MAY 6.—By the <i>New York</i> =London:	
Poel & Arnold (Coarse).....	22,500
MAY 7.—By the <i>Cervic</i> =Liverpool:	
New York Commercial Co. (Fine)	23,000
A. T. Morse & Co. (Fine).....	6,000
MAY 10.—By the <i>Waldersee</i> =Hamburg:	
Poel & Arnold (Fine).....	7,000
MAY 13.—By the <i>St. Louis</i> =London:	
Poel & Arnold (Coarse).....	45,000
MAY 15.—By the <i>Armenian</i> =Liverpool:	
Poel & Arnold (Fine).....	6,500
Poel & Arnold (Coarse).....	8,000
MAY 15.—By the <i>Carmania</i> =Liverpool:	
General Rubber Co. (Coarse)....	11,500
Robinson & Stiles (Fine).....	7,000

OTHER ARRIVALS AT NEW YORK.

CENTRALS.

	POUNDS.
APR. 23.—By the <i>El Dia</i> =Galveston:	
Continental-Mexican Rubber Co.....	36,000

CENTRALS—Continued.

APR. 24.—By the <i>Pratoria</i> =Hamburg:	
Poel & Arnold.....	22,500
APR. 24.—By the <i>Trent</i> =Caribbean, etc.:	
G. Amsinck & Co.....	1,500
Meyer Hecht.....	1,000
Strobel Bros.....	1,000
Escobar & Gorgorza.....	1,000
APR. 25.—By the <i>Canagney</i> =Tampico:	
New York Commercial Co.....	29,000
Edward Maurer.....	25,000
A. T. Morse & Co.....	11,000
APR. 25.—By the <i>Colon</i> =Colon:	
Hirzel, Feltman & Co.....	8,000
Dumarest Bros.....	3,500
Pablo Colvet Co.....	2,500
G. Amsinck & Co.....	1,500
I. Brandon & Bros.....	1,500
L. Johnson & Co.....	1,000
Roldan & Van Sickle.....	1,000
Piza Nephews Co.....	1,000
H. Marquardt & Co.....	1,000
APR. 27.—By the <i>Manchester</i> =Hamburg:	
Poel & Arnold.....	15,000
A. Hirsch & Co.....	4,500
A. T. Morse & Co.....	3,500
APR. 27.—By the <i>Esperanza</i> =Frontera:	
Harburger & Stack.....	15,000
E. Steiger & Co.....	10,000
H. Marquardt & Co.....	4,000
New York Commercial Co.....	2,500
W. L. Wadleigh.....	1,500
G. Amsinck & Co.....	1,000
APR. 29.—By the <i>Patricia</i> =Hamburg:	
Poel & Arnold.....	22,500
APR. 29.—By the <i>Vigilancia</i> =Tampico:	
Edward Maurer.....	55,000
New York Commercial Co.....	22,500
MAY 2.—By the <i>Advance</i> =Colon:	
Mann & Emdon.....	6,000

CENTRALS—Continued.

Hirzel, Feltman & Co.....	5,500
Aramburo Co.....	2,500
Dreyfuss & Mayo.....	2,500
H. Marquardt & Co.....	2,500
Canen's Sons.....	1,500
Wessels, Kulemkamp Co.....	1,500
Ados Santos & Co.....	2,000
Andreas & Co.....	1,500
G. Amsinck & Co.....	1,500
Kunhardt & Co.....	1,000
E. B. Strout.....	1,000
I. Brandon & Bros.....	1,000
MAY 4.—By the <i>El Sud</i> =New Orleans:	
Manhattan Rubber Mfg. Co.....	22,500
MAY 4.—By the <i>Mexico</i> =Frontera:	
Harburger & Stack.....	6,000
Strube & Uitz.....	5,000
E. Steiger & Co.....	2,000
New York Commercial Co.....	2,000
MAY 6.—By the <i>El Mar</i> =Galveston:	
Continental-Mexican Rubber Co.....	70,000
MAY 6.—By the <i>Panama</i> =Colon:	
H. Marquardt & Co.....	4,000
G. Amsinck & Co.....	3,000
Dumarest Bros. Co.....	2,500
I. Brandon & Bros.....	3,500
Hirzel, Feltman & Co.....	2,000
Roldan & Van Sickle.....	1,500
L. Johnson & Co.....	1,000
MAY 6.—By the <i>Camecos</i> =Bahia:	
Poel & Arnold.....	47,500
J. H. Rossback & Bros.....	9,000
A. Hitch & Co.....	6,000
New York Commercial Co.....	4,000
A. Hirsch & Co.....	2,500
MAY 6.—By the <i>Momus</i> =New Orleans:	
A. T. Morse & Co.....	15,000
Rotholz.....	5,000
MAY 6.—By the <i>Bayamo</i> =Tampico:	
Edward Maurer.....	60,000

Sales in April..... 568,838 153,391 339,998 438,212 388,828

Stocks, April 30.... 461,573 880,458 635,875 441,621 488,799

Arrivals s'ce Jan. 1. 1,637,631 2,071,689 1,932,955 1,816,900 1,751,871

Congo sorts 1,381,092 1,573,515 1,542,898 1,443,046 1,565,539

Other sorts 256,539 498,174 390,057 373,854 186,332

Sales since Jan. 1. 1,834,242 1,926,418 1,838,441 1,986,179 1,921,177

The Antwerp inscription sale in May resulted in a decline of about 3 cents per pound.

Rubber Scrap Prices.

NEW YORK quotations—prices paid by consumers for carload lots, per pound—are higher again:

Old rubber boots and shoes—domestic.....	12 @ 12¼
Old rubber boots and shoes—foreign.....	10¾ @ 11
Pneumatic bicycle tires.....	7½ @ 7¾
Automobile tires.....	9¾ @ 10
Solid rubber wagon and carriage tires.....	10 @ 10¼
White trimmed rubber.....	12½ @ 12¾
Heavy black rubber.....	5¾ @ 6
Air brake hose.....	4¾ @ 5
Fire and large hose.....	3½ @ 3¾
Garden hose.....	2½ @ 2¾
Matting.....	1½ @ 1¾

CENTRALS—Continued.

New York Commercial Co.....	20,000	
H. Marquardt & Co.....	4,000	84,000
MAY 8.—By the <i>El Alba</i> =Galveston:		
Continental-Mexican Rubber Co.....	11,500	
MAY 8.—By the <i>Prins Joachim</i> =Costa Rica:		
I. Brandon & Bros.....	2,000	
Andreas & Co.....	1,500	
United Fruit Co.....	1,500	
Graham, Hinkly & Co.....	1,000	
G. J. Fajardo.....	1,000	7,000
MAY 11.—By the <i>Monterey</i> =Mexico:		
Harburger & Stack.....	7,000	
E. Steiger & Co.....	2,500	
H. Marquardt & Co.....	3,500	
J. Kubie & Co.....	2,500	
New York Commercial Co.....	2,000	17,500
MAY 13.—By the <i>El Dia</i> =Galveston:		
Continental-Mexican Rubber Co.....	22,500	
MAY 15.—By the <i>Pennsylvania</i> =Hamburg:		
Poel & Arnold.....	28,000	
MAY 15.—By the <i>El Cid</i> =Galveston:		
Continental-Mexican Rubber Co.....	35,000	
MAY 15.—By the <i>Siberia</i> =Colombia, etc.:		
G. Amsinck & Co.....	5,000	
Kunhardt & Co.....	3,000	
Aramburo.....	1,500	
A. M. Capen's Sons.....	1,500	
A. dos Santos.....	1,500	
Dumarest Bros.....	1,000	13,500
MAY 16.—By the <i>Santiago</i> =Tampico:		
Edward Maurer.....	65,000	
Poel & Arnold.....	22,500	
New York Commercial Co.....	22,500	
A. T. Morse & Co.....	3,000	
H. Marquardt & Co.....	3,000	
Harburger & Stack.....	2,000	118,000
MAY 17.—By the <i>Proteus</i> =New Orleans:		
A. T. Morse & Co.....	4,000	
Manhattan Rubber Mfg. Co.....	3,000	
A. N. Rotholz.....	2,000	
G. Amsinck & Co.....	1,500	10,500
MAY 20.—By the <i>Merida</i> =Vera Cruz:		
Mexican Products Co.....	2,500	
Harburger & Stack.....	2,500	
American Trading Co.....	1,500	
Thebaud Bros.....	1,000	
E. Steiger & Co.....	1,000	8,500
MAY 17.—By the <i>Finance</i> =Colon:		
Hirzel, Feltman & Co.....	5,000	
Dumarest Bros.....	4,500	
E. B. Strout.....	4,000	
G. Amsinck & Co.....	4,000	
Aramburo.....	3,000	
Pablo Calvet Co.....	3,000	
New York Commercial Co.....	3,000	
Mann & Emdon.....	3,000	
Roldan & Van Sickle.....	2,500	
H. Marquardt & Co.....	1,500	
I. Brandon & Bros.....	1,500	
De Lima & Cortessa.....	1,500	
Andean Trading Co.....	1,000	
L. Johnson & Co.....	1,500	
W. R. Grace Co.....	1,000	40,000
MAY 20.—By the <i>Amerika</i> =Hamburg:		
Poel & Arnold.....	13,500	
MAY 20.—By the <i>Tennysen</i> =Bahia:		
Poel & Arnold.....	25,000	
American Commercial Co.....	22,500	
J. H. Rosshack & Bros.....	15,000	
A. Hirsch & Co.....	2,500	
New York Commercial Co.....	10,000	75,000
MAY 21.—By the <i>El Dorado</i> =Galveston:		
Continental-Mexican Rubber Co.....	22,500	
MAY 21.—By the <i>Cienfuegos</i> =Tampico:		
Edward Maurer.....	45,000	
Poel & Arnold.....	18,000	63,000
MAY 22.—By the <i>Tagus</i> =Colon:		
G. Amsinck & Co.....	9,000	
A. M. Capen's Sons.....	3,500	
Kunhardt & Co.....	2,500	
Aramburo.....	2,000	
Roldan & Van Sickle.....	1,000	
Mecke & Co.....	1,000	19,000
MAY 23.—By the <i>El Valle</i> =Galveston:		
Continental-Mexican Rubber Co.....	20,000	

AFRICANS.

APR. 24.—By the <i>Pretoria</i> =Hamburg:		
George A. Alden & Co.....	11,500	
APR. 25.—By the <i>Teutonic</i> =Liverpool:		
A. T. Morse & Co.....	11,500	
General Rubber Co.....	9,000	
Livesey & Co.....	11,500	
Henry A. Gould Co.....	4,500	36,500
APR. 25.—By the <i>Deutschland</i> =Hamburg:		
Poel & Arnold.....	33,000	
APR. 27.—By the <i>Lorraine</i> =Havre:		
A. T. Morse & Co.....	15,000	

AFRICANS—Continued.

APR. 27.—By the <i>Manchester</i> =Hamburg:		
Poel & Arnold.....	45,000	
Rubber Trading Co.....	7,000	
W. L. Gough Co.....	11,500	63,500
APR. 29.—By the <i>Patricia</i> =Hamburg:		
Poel & Arnold.....	50,000	
A. T. Morse & Co.....	9,000	
George A. Alden & Co.....	3,000	62,000
APR. 30.—By the <i>Artya</i> =Lisbon:		
General Rubber Co.....	115,000	
W. L. Gough Co.....	22,500	137,500
MAY 1.—By the <i>Kroonland</i> =Antwerp:		
Poel & Arnold.....	28,000	
General Rubber Co.....	5,000	
A. T. Morse & Co.....	3,000	36,000
MAY 1.—By the <i>Georgic</i> =Liverpool:		
George A. Alden & Co.....	11,000	
Poel & Arnold.....	22,000	
A. W. Brunn.....	5,000	
W. L. Gough Co.....	3,000	41,000
MAY 1.—By the <i>Caronia</i> =Liverpool:		
General Rubber Co.....	90,000	
Raw Products Co.....	16,000	
Livesey & Co.....	7,000	
A. W. Brunn.....	5,000	118,000
MAY 3.—By the <i>Baltic</i> =Liverpool:		
George A. Alden & Co.....	17,000	
Poel & Arnold.....	16,000	
Livesey & Co.....	7,000	40,000
MAY 6.—By the <i>Bluecher</i> =Hamburg:		
Poel & Arnold.....	13,500	
W. L. Gough Co.....	7,000	
Rubber Trading Co.....	5,500	26,000
MAY 6.—By the <i>Umbria</i> =Liverpool:		
General Rubber Co.....	11,000	
MAY 6.—By the <i>New York</i> =London:		
General Rubber Co.....	52,000	
MAY 6.—By the <i>Silvia</i> =Hamburg:		
A. T. Morse & Co.....	26,000	
Rubber Trading Co.....	11,500	
George A. Alden & Co.....	3,500	
W. L. Gough Co.....	5,000	46,000
MAY 7.—By the <i>Cetic</i> =Liverpool:		
George A. Alden & Co.....	36,000	
A. T. Morse & Co.....	7,000	43,000
MAY 9.—By the <i>Majestic</i> =Liverpool:		
Livesey & Co.....	15,000	
George A. Alden & Co.....	11,000	
Poel & Arnold.....	3,500	29,500
MAY 10.—By the <i>Waldsee</i> =Hamburg:		
Poel & Arnold.....	15,000	
George A. Alden & Co.....	11,000	
General Rubber Co.....	5,000	31,000
MAY 10.—By the <i>Peninsular</i> =Lisbon:		
General Rubber Co.....	95,000	
George A. Alden & Co.....	22,000	
Poel & Arnold.....	22,000	
MAY 13.—By the <i>St. Louis</i> =London:		
Poel & Arnold.....	11,500	
MAY 13.—By the <i>Samland</i> =Antwerp:		
Poel & Arnold.....	60,000	
MAY 14.—By the <i>Finland</i> =Antwerp:		
George A. Alden & Co.....	70,000	
Poel & Arnold.....	65,000	
Joseph Cantor.....	35,000	
General Rubber Co.....	55,000	
A. T. Morse & Co.....	25,000	
Rubber Trading Co.....	30,000	
W. L. Gough Co.....	5,500	
Raw Products Co.....	4,500	290,000
MAY 15.—By the <i>Carmania</i> =Liverpool:		
General Rubber Co.....	55,000	
Livesey & Co.....	15,000	
Poel & Arnold.....	7,000	
Henry A. Gould Co.....	3,500	80,500
MAY 20.—By the <i>Amerika</i> =Hamburg:		
W. L. Gough Co.....	16,000	
A. T. Morse & Co.....	13,500	
Poel & Arnold.....	5,500	35,000
MAY 20.—By the <i>Philadelphia</i> =London:		
General Rubber Co.....	11,500	
MAY 20.—By the <i>Etruria</i> =Liverpool:		
A. T. Morse & Co.....	11,500	
Livesey & Co.....	3,500	15,000
MAY 22.—By the <i>Turkistan</i> =Hamburg:		
George A. Alden & Co.....	22,500	
A. T. Morse & Co.....	11,500	34,000

EAST INDIAN.

APR. 24.—By the <i>Hudson</i> =Singapore:		
Poel & Arnold.....	14,000	
Joseph Cantor.....	20,000	
A. T. Morse & Co.....	8,000	42,000
APR. 25.—By the <i>Memphis</i> =London:		
Robinson & Stiles.....	8,000	

EAST INDIAN—Continued.

APR. 29.—By the <i>Rabenfels</i> =Colombo:		
A. T. Morse & Co.....	11,500	
MAY 1.—By the <i>Minnetonka</i> =London:		
George A. Alden & Co.....	20,000	
MAY 1.—By the <i>Caronia</i> =Liverpool:		
Raw Products Co.....	11,500	
MAY 6.—By the <i>Braunfels</i> =Colombo:		
A. T. Morse & Co.....	*7,000	
MAY 7.—By the <i>Minneapolis</i> =London:		
Robinson & Stiles.....	15,000	
MAY 9.—By the <i>Indrasamha</i> =Singapore:		
Joseph Cantor.....	20,000	
A. T. Morse & Co.....	9,000	
Winter & Sule.....	13,000	42,000
MAY 13.—By the <i>Muncaster</i> =Singapore:		
George A. Alden & Co.....	22,000	
Poel & Arnold.....	15,000	37,000
MAY 14.—By the <i>Minnehaha</i> =London:		
General Rubber Co.....	*9,000	
Robinson & Stiles.....	11,500	
George A. Alden & Co.....	2,000	22,500
MAY 23.—By the <i>Mesaba</i> =London:		
George A. Alden & Co.....	*2,000	
Robinson & Stiles.....	7,000	9,000

* Denotes Plantation Grades (balance Assam, Borneo and Java).

GUTTA-JELUTONG.

APR. 24.—By the <i>Hudson</i> =Singapore:		
George A. Alden & Co.....	375,000	
W. L. Gough Co.....	175,000	
Heabler & Co.....	200,000	
H. Pauli & Co.....	110,000	860,000
MAY 9.—By the <i>Indrasamha</i> =Singapore:		
H. Pauli & Co.....	330,000	
George A. Alden & Co.....	290,000	
L. Littlejohn & Co.....	55,000	
Heabler & Co.....	75,000	
W. L. Gough Co.....	20,000	770,000
MAY 13.—By the <i>Muncaster</i> =Singapore:		
L. Littlejohn & Co.....	150,000	
D. A. Shaw & Co.....	100,000	
A. W. Brunn & Co.....	135,000	
Heabler & Co.....	325,000	
George A. Alden & Co.....	225,000	
W. L. Gough Co.....	55,000	
Interior ports.....	225,000	1,215,000

GUTTA-PERCHA.

MAY 6.—By the <i>Silvia</i> =Hamburg:		
Robert Soltan Co.....	7,000	
MAY 9.—By the <i>Indrasamha</i> =Singapore:		
George A. Alden & Co.....	40,000	
MAY 10.—By the <i>Pennsylvania</i> =Hamburg:		
Robert Soltan Co.....	22,000	
MAY 13.—By the <i>Muncaster</i> =Singapore:		
Heabler & Co.....	22,500	
MAY 20.—By the <i>Amerika</i> =Hamburg:		
Robert Soltan Co.....	7,500	

BALATA.

APR. 27.—By the <i>Korona</i> =Demarara:		
Frame & Co.....	20,000	
Middleton.....	9,000	
A. T. Morse & Co.....	4,000	
George A. Alden & Co.....	4,000	37,000
MAY 9.—By the <i>St. Laurent</i> =Havre:		
C. P. dos Santos & Co.....	6,000	
MAY 14.—By the <i>Minnehaha</i> =London:		
Henry A. Gould Co.....	11,500	
MAY 20.—By the <i>Prins Fred'k Hendrik</i> =Ciudad Bolivar:		
Thebaud Bros.....	40,000	
George A. Alden & Co.....	15,000	
G. Amsinck & Co.....	2,000	57,000
MAY 22.—By the <i>Manoa</i> =Demarara:		
George A. Alden & Co.....	5,500	
Frame & Co.....	5,000	
A. T. Morse & Co.....	3,500	14,000

CUSTOM HOUSE STATISTICS.

PORT OF NEW YORK—APRIL.

Imports:	Pounds.	Value.
India-rubber.....	6,341,737	\$4,853,971
Balata.....	58,027	23,639
Gutta-percha.....	13,777	12,350
Gutta-jelutong (Pontianak).....	6,258,916	93,421
Total.....	12,672,457	\$4,983,381
Exports:	Pounds.	Value.
India-rubber.....	24,505	\$22,720
Balata.....	6,092	4,568
Reclaimed rubber.....	6,422	1,028
Rubber Scrap imported.....	801,560	\$76,500



Vol. 36.

JUNE 1, 1907.

No. 3.

TABLE OF CONTENTS

Editorial:	PAGE.
Curing Rubber in Bulk.....	265
The Value of a Rubber Tree.....	265
For the Improvement of Cotton.....	266
Patent Law Protection.....	266
Minor Editorials.....	266
The Cotton Manufacturers Meet.....	268
Trade Conditions in the Congo.....	269
[With 3 Illustrations.]	
Progress of Rubber Culture.....	271
[Rubber Planting Results in the Far East. Planting in Mexico. Bridge's "Block" Rubber Press. Belgian Capital in Mexican Rubber. Shipment of Rubber from Trinidad. Yield of Planted "Castilloa." Rubber Planting in the Congo. To Plant Rubber on the Amazon. Rubber Planting in Haiti. Park-Holloway Tapping Knife.]	
[With 3 Illustrations.]	
Sources of Crude Rubber.....	274
[Rubber Coming Down the Nile. Rubber Exports from Bolivia. The Native Rubber of Jamaica. Liberian Rubber Monopoly. Inquiry from Colombia.]	
The Editor's Book Table.....	275
New Rubber Goods in the Market.....	276
[New "Duplex" Foldables. "Victor" Felt Tread Inner Tube. Traver Blowout Patch. Pneumatic Cushion Rubber Heel. Sanitary Wrapper Table Cloth. "Turbine" Lawn Sprinkler. One Buckle Lumberman's Shoe. Camp Mattress. Bailey's New Rubber Stopper. Electric Heating Pads. Fancy Rubber Balls.]	
[With 13 Illustrations.]	
Recent Patents Relating to Rubber.....	278
[United States. Great Britain. Germany. France.]	
United States Rubber Co.'s Annual Meeting.....	281
A Tire Fabric Machine.....	283
John Boyd Dunlop (With Portrait).....	284
D. Lorne McGibbon, President (With Portrait).....	286
Rubber Interests in Europe.....	288
Miscellaneous:	
The Rubber Industry in Japan.....K. Okada	267
Guayule Interests.....	267
Zakingummi.....	268
Murac.....	268
A Congo "Root Rubber" Plant (Illustrated).....	270
New Trade Publications.....	280
The Growing Rubber Heel Trade.....	274
Separating Resins from Rubber.....	280
New Detachable Tire Grip (Illustrated).....	283
Rubber Exploitation in Peru.....	284
Test for Farinha in Rubber.....	284
Tire Factory at Singapore.....	284
Firestone Dismountable Rim (Illustrated).....	285
Safety of Factory Employees.....	285
Rubber Stamps for Postal Use.....	285
Wants and Inquiries.....	285
Process of Reclaiming Rubber.....	288
India-Rubber Goods in Commerce.....	286
News of the American Rubber Trade.....	289
The Trade at Akron.....Our Correspondent	288
The Trade at Trenton.....Our Correspondent	287
The Trade in San Francisco.....Our Correspondent	287
Review of the Crude Rubber Market.....	293

Liverpool.

The partnership between Mark Hydes and Oswald Latham as Hydes, Latham & Co., india-rubber merchants, Liverpool, having been dissolved, Mr. Hydes is returning to business as Mark Hydes & Co. at 28 Exchange street, East, Liverpool. Mr. Latham will continue in business at the location of the partnership firm, 9b, Exchange buildings.

WILLIAM WRIGHT & Co. report [May 1]:

Fine Para.—Under the influence of heavy receipts prices have again de-

clined, and the market closes with a downward tendency. There has been a fair demand for delivery at current rates, but sellers are still acting cautiously. Whether the heavy receipts this month are at the expense of the two remaining months of the crop remains to be seen, but in our opinion the present break in prices presents a favorable opportunity to manufacturers for operating.

EDMUND SCHLUTER & Co. report [April 30]:

The market has been moderately active during April, with a fair trade demand. After a decline early in the month to 4s. 10d. for hard fine, prices advanced to 4s. 11½d. Subsequently the large receipts at the Amazon ports brought about a relapse. The arrivals from Brazil have been unexpectedly large and if they continue to be ample in May and June, quotations may not recover in the near future.

WORLD'S VISIBLE SUPPLY OF PARA, APRIL 30.

	1907.	1906.	1905.	1904.	1903.	1902.
Tons	5157	4653	3217	2777	4316	4595
Prices, hard fine. 4/11¼		5/2½	5/6¾	4/7½	3/10¾	3/1¼

LIVERPOOL STOCKS OF AFRICAN RUBBER.

	1907.....	1904.....	1901.....	1900.....	1899.....
1907.....	382	531	792		
1906.....	353	351	898		
1905.....	355	538	473		

Balata

EXPORTS from Ciudad Bolivar (Venezuela) in kilograms, as reported in *Der Treppenzplanzer*:

In 1903.....	1,094,578	In 1905.....	1,322,315
In 1904.....	899,034	In 1906.....	1,232,148

OFFICIAL STATISTICS OF RUBBER (IN POUNDS).

UNITED STATES.

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
March, 1907.....	8,899,642	406,391	8,493,251
January-February.....	14,910,576	672,611	14,237,965

Three months, 1907	23,810,218	1,079,002	22,731,216
Three months, 1906	19,097,624	982,559	18,115,065
Three months, 1905	26,412,435	728,348	25,684,087

GERMANY.

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
March, 1907.....	3,263,480	944,460	2,319,020
January-February.....	5,382,740	2,690,600	2,692,140

Three months, 1907	8,646,220	3,635,060	5,011,160
Three months, 1906	11,896,500	3,451,800	8,444,700
Three months, 1905	11,233,860	4,007,300	7,226,560

FRANCE.*

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
March, 1907.....	2,356,860	2,181,300	175,560
January-February.....	4,952,640	2,951,960	2,000,680

Three months, 1907	7,309,500	5,133,260	2,176,240
Three months, 1906	8,984,360	4,179,340	4,805,020
Three months, 1905	7,165,180	2,894,980	4,270,200

BELGIUM.†

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
March, 1907.....	1,489,754	1,295,745	194,009
January-February.....	3,319,760	1,792,854	1,526,906

Three months, 1907	4,809,514	3,088,599	1,720,915
Three months, 1906	5,708,573	2,821,909	2,886,664
Three months, 1905	4,205,913	3,000,940	1,204,973

GREAT BRITAIN.

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
March, 1907.....	8,392,048	2,906,624	5,485,424
January-February.....	11,833,248	6,087,872	5,745,376

Three months, 1907	20,225,296	8,994,496	11,230,800
Three months, 1906	17,647,168	9,875,824	7,771,344
Three months, 1905	15,993,376	10,248,456	5,744,920

NOTE.—German statistics before Jan. 1, 1906, include Gutta-percha, Balata, old (waste) rubber. British figures include old rubber. French, Austrian and Italian figures include Gutta-percha. The exports from the United States embrace the supplies for Canadian consumption.

*General Commerce.

†Special Commerce.

Le Caoutchouc & La Gutta-Percha

49, Rue des Vinalgriers, PARIS (10e), FRANCE,
New York Office: No. 874 BROADWAY.

Representative---CH. DIEN

The only Journal in the French language dealing with India Rubber and Gutta-percha and the industries connected therewith, including Asbestos, Celluloid, and Insulating Materials.

Published on the 15th of each month.

ANNUAL SUBSCRIPTION: 26 FRANCS.

An unexcelled advertising medium for firms wishing to introduce their products into France and the French colonies.

Specimen copies free. Tariff of advertisements on demand.

Mention The India Rubber World when you write.

Special Notice ^{TO} THE Rubber Planting World

PARA, CASTILLOA, CEARA, ETC.

Seeds and stumps forwarded to all parts of the World. Orders being booked from Planters, Merchants, Govt. Botanical and Agricultural Departments, Officials, Consuls, Missionaries, Lawyers, etc., from all parts of the Globe.

The Chief of a Botanical and Scientific Department who bought a large quantity of Para and Castilloa seed from last two crops, writes, 19th November, 1906: "We may however want a large quantity of seeds next year, both of Castilloa and Para. I shall be obliged if you will quote me your lowest possible price for both Para and Castilloa in quantities of 250,000, 500,000, 750,000 and 1,000,000."

The Director of a Govt. Experiment Station, Honolulu, writes, December 13th, 1906: "Yours of October 15th at hand; the 23 packages Castilloa Elastica seed came about three weeks ago, and are of good quality, nearly all having germinated."

Special offer of seeds and stumps, with circulars, on view at the office of this paper and post free on application.

Seeds of celebrated Caravonica and Spence Cotton. For green manuring, Crotolaria Striata, Vigna, Groundnuts, etc. Price on application.

See further particulars in our advertisement in this paper, page 41.

Telegraphic Address: J. P. WILLIAM & BROS.,
William, Henaratgoda, Ceylon. Tropical Seed Merchants,
Liber's, A.I. and A.B.C. Codes used. Henaratgoda, Ceylon.

Also private codes.

Mention The India Rubber World when you write.

IF YOU ARE INTERESTED IN RUBBER PLANTING

READ

"What I Saw in the Tropics"

JUST ISSUED BY

THE INDIA RUBBER PUBLISHING CO.

35 West 21st Street, :: New York

Furnish Us Your Address

if you are interested in the EUROPEAN India-rubber, Gutta-percha, Asbestos, and Celluloid industry, so as to enable us to send you free of charge a sample copy of the "Gummi-Zeitung," the leading organ of the Continental manufacturing interest. Address:

GUMMI-ZEITUNG

DRESDEN-A,

SAXONY, GERMANY

Mention The India Rubber World when you write.

SYRINGE BOXES

OF WHITE WOOD, BASS, OAK, ASH, Etc.

FINE WORK. LOW PRICES. PROMPT SHIPMENT.

Estimates and Samples Furnished on Application.

ALSO ANY OTHER KIND OF

FANCY WOOD BOXES MADE TO ORDER

Extensive Facilities enable us to Guarantee Satisfaction.

HENRY H. SHEIP MFG. CO.

6th St. and Columbia Ave., Philadelphia, Pa.

Mention The India Rubber World when you write.



Bicycle, Carriage, Automobile.

NONE BETTER.

KOKOMO RUBBER CO.,

KOKOMO, IND.

Mention The India Rubber World when you write.

BOUND VOLUMES

OR

The India Rubber World

Should be in the Library of Every Rubber Manufacturer, Every Dealer and Every Planter.

We are able to supply copies as follows:

October 1890 to September 1891

" 1894 to " 1895

" 1895 to " 1896

" 1896 to " 1897

" 1902 to " 1903

" 1903 to " 1904

" 1904 to " 1905

Orders for these should be given at once as the supply is sure to be exhausted at an early date.

PRICE \$5.00 PER COPY.

THE INDIA RUBBER PUBLISHING CO.

35 West 31st Street, NEW YORK.

BUYERS' DIRECTORY OF THE RUBBER TRADE.

Classified List of Manufacturers and Dealers in India-Rubber Goods and Rubber Manufacturers' Supplies.

INDEX TO ADVERTISERS

A		Page.		Page.		Page.	
Acme Rubber Mfg. Co.	11	D	24	Kokomo Rubber Co.	10	Royle & Sons, John.	33
Adams, John J.	36	Danversport Rubber Co.	24	Kush, Gustave.	10	Rubber Chemical Co., Ltd.	21
Adams, A. J.	37	Davidson Rubber Co.	40			Rubber Trading Co.	48
Alton Machine Co.	34	Davol Rubber Co.	14	L		Rubber Products Co.	15
Akron Rubber Works.	34	Dayton Rubber Mfg. Co.	48	La Crosse Rubber Mills Co.	22		
Aladdin Rubber Co.	49	Derby Rubber Co.	24	Lake Shore Rubber Co.	12	S. & L. Rubber Co.	49
Albert & Son, L.	26	Dermatine Co., Ltd.	46	Lane & Co., J. H.	38	San Giacomo Sons.	27
Alden & Co., Geo. A.	23	Devine, Joseph P.	38	Lang, John.	37	Sayen, Osgood.	2
Allen Crate Co.	36	Dillon, Charles E., Jos.	28	Laurel Rubber Co.	10	Scheel, Wm. H.	2
Allen Rubber Co.	40	Dos Santos, C. P.	28	Le Cautchouc & La Gutta		Schnurmann, J.	27
Allen Mfg. Co., W. D.	41	Dunlop Tire & Rubber Goods Co.	38	Percha	51	Schrader's Sons, Inc., A.	29
Aluminum Flaks Co.	48			Leslie, A. W.	27	Schwab & Co.	27
American Hard Rubber Co.	15	E		Loewes & Co., Ltd.	50	Seamless Rubber Co.	16
American Process Co.	25	Eastern Reclaimed Rubber Co.	25	Loewenthal & Co., B.	2	Sharples, Stephen P. E.	46
American Rubber Co.	37	Egestorff's (Georg) Salzwerke.	20	Loewenthal & Sons, J.	26	Shelp Mfg. Co., Henry H.	51
American Tool & Machine Co.	13	Electric Hose & Rubber Co.	2	Lubbery, Jr., Geo. F.	46	Smith, P. C.	36
Appleton & Son, F. H.	13	Empire Rubber Mfg. Co.	4	Luzerne Rubber Co., The.	15	Splaight, Geo. W.	28
Arnold, Wm. E.	38	Eureka Fire Hose Co.	4			Stamford Rubber Supply Co.	29
Ashley & Co., T. C.	18	F		M		Standard Asphalt & Rubber Co.	13
Atlas Chemical Co.	15	Fabric Fire Hose Co.	4	McGrory, Philip.	27	Stockton Rubber Co.	24
		Farrel Foundry & Machine Co.	35	Manhattan Rubber Mfg. Co.	12	Stokes, F. J., Machine Co.	1
B		Farrington, C. E.	20	Manufactured Rubber Co.	25	Stokes Rubber Co., Jos.	15
Bailey & Co., C. J.	14	Feilless Rubber Co.	37	Mason Regulator Co.	38		
Battelle & Renwick.	23	Fillingham, M. P.	37	Massachusetts Chemical Co.	14	Taintor Mfg. Co., R. F.	7
Bay State Machine Co.	48			Mattson Rubber Co.	42	Textile-Finishing Machinery Co.	47
Bell, Carter Mfg. Co.	27	G		Maurer, Ed.	12	Textile Machine Works E.	46
Bers, M. & Co.	26	Gabriel & Schall.	29	Mechanical Fabric Co.	20	Thropp's Sons Co., John E.	46
Berns, M. & Co.	26	Goodrich Co., B. F.	19	Mechanical Rubber Co.	26	Thropp, William R.	46
Biggs Boiler Works Co.	46	Gough Co., Wallace L.	59	Meyer Bros.	45	Trenton Gutta Percha and Sep-	
Birkenstein & Sons, S.	26	Graham Rubber Co.	59	Middlesex Last Co.	45	arating Co.	26
Birmingham Iron Foundry.	43	Gummi-Zeitung.	61	Milford Rubber Works.	45	Trenton Rubber Mfg. Co.	8
Bloomfield Soft Rubber Wks.	33	Gutta Percha & Rubber Mfg. Co.	60	Mitzel Rubber Co.	15	Trenton Rubber Reclaiming Wks.	27
Boomer & Boschert Press Co.	33	Gutta Percha & Rubber Mfg. Co., Toronto.	59			Trenton Scrap Rubber Supply Co.	26
Borgfeldt & Co., Geo.	16			N		Trenton Rubber Reclaiming Wks.	27
Boston Belting Co.	5	H		N. Tire Rubber Sponge Co.	37	Turner, Vaughn & Taylor Co.	11
Boston Wagon Hoop & Rubber Co.	12	Hagemeyer & Brunn.	26	National India Rubber Co.	45	Tyrer Rubber Co.	60
Bowers Rubber Co.	37	Hanover Rubber Co.	16	New England Butt Co.	50	Typke & King.	29
Bridge, David, & Co.	45	Hirsch & Co., A.	2	New Jersey Car Spring & Rubber Co.	10		
Bristol Co.	1	Hirsch, Gunnar.	26	Co.	24	U	
Brunn & Co., A. W.	26	Hitch & Co., Allerton D.	28	New Jersey Rubber Co.	24	United States Graphite Co.	46
		Hodgman Rubber Co.	6	New Jersey Zinc Co.	20	United States Rubber Co.	17
C		Hofeller & Co., Theodore.	36	New York Belting & Packing Co.	20	U. S. Rubber Reclaiming Wks.	32
Cabot, Samuel.	1	Hoggson & Pettis Mfg. Co.	36	New York Rubber Co., Ltd.	49	U. S. Waste Rubber Co.	41
Canadian Rubber Co., of Montreal.	2	Horne Rubber Co.	44	North British Rubber Co., Ltd.	26		
Candfield Co., H. O.	49	Hood Rubber Co.	60	Norton & Co., M.	9	V	
Canton Rubber Co.	37	Household Rubber Co.	15			Victor Auto Tire Repair Co.	56
Cantor, Joseph.	29	Hygeia Nursing Bottle Co.	37	P		Voorhees Rubber Mfg. Co.	5
Chicago Rubber Works.	—			Peerless Rubber Mfg. Co.	18	W	
Cincinnati Rubber Mfg. Co.	9	I		Pequanoc Rubber Co.	23	Wanted and For Sale.	41
Clapp Rubber Co., E. H.	57	Imperial Rubber Co.	37	Perrin, Wm. R., & Co.	38	Weld Mfg. Co.	36
Clark, Edred W.	47	India Rubber Pub. Co.	25-40-48-51	Peru-Para Rubber Co.	40	Weilman Co.	36
Cleveland Rubber Works.	47			Philadelphia Rubber Works.	30	Weston Rubber Works.	24
Continental Caoutchouc & Gutta	20	J		Picher Lead Co.	21	Westmoreland Rubber Mfg. Co.	29
Percha Co.	13	Jenkins Bros.	10	Pirelli & Co.	33	Wetherill Co., S. P.	24
Continental Rubber Co.	31	Jones, H. W.	46	Plymouth Rubber Co.	14	White, T. & S. C. Co.	28
Continental Rubber Works	50	"Journal d'Agriculture Tropi- cale"		R		Williams Foundry & Machine Co.	46
Cravenette Co., Ltd.	1			Raven Mining Co.	50	Williams & Bros., J. P.	51
Crooke, Robert L.	26	K		Raw Products Co.	60	Wirt & Knox Mfg. Co.	13
Cummings & Sons, Wm. H.	27	Kaufman, M.	26	Republic Rubber Co.	16	Wolpert, M. J.	29
		Knox, Joseph E., & Co.	26	Revere Rubber Co.	58	Woodman, Ph.D., Durand.	20
				Robinson & Stiles.	37	Y	
						Yerdon, William.	41

**MECHANICAL RUBBER
GOODS.**

Belting.
Diaphragma.
Gaskets.
Hose (Fire, Garden, Steam).
Mats and Matting.
Mould Work.
Packing.
Tubing.
Valves.
Washers.

Mechanical Rubber Goods—Gen-
eral.

Acme Rubber Mfg. Co., Trenton
Boston Belting Co., Boston, N. York
Boston Woven Hose & Rubber Co.
Bowers Rubber Co., San Francisco, Cal.
Canadian Rubber Co. of Montreal
H. O. Canfield Co., Bridgeport, Ct.
Chicago Rubber Wks., Chicago
Cincinnati Rubber Mfg. Co., Cincinnati
Cleveland Rubber Co., Cleveland, O.
Continental Caoutchouc & Guttapercha
Co., Hanover, Germany
Continental Rubber Works, Erie, Pa.
Dayton Rubber Mfg. Co., Dayton, O.
The Dermatine Co., London
Dunlop Tire & Rubber Goods Co., Tem-
perley

Mechanical Goods—General.—Continued.

Empire Rubber Mfg. Co., Trenton, N. J.
Eureka Fire Hose Co., New York.
R. Goodrich & Sons, Akron, O.
Gutta Percha & Rubber Mfg. Co., N. Y.
Gutta Percha & Rubber Mfg. Co., Toronto.
Home Rubber Co., Trenton, N. J.
Lake Shore Rubber Co., Erie, Pa.
Manhattan Rubber Mfg. Co., New York.
Massachusetts Chemical Co., Walpole, Mass.
Mechanical Rubber Co., New York.
National Indian-Rubber Co., Bristol, R. I.
N. Y. Car Spring & Rubber Co., Jersey City.
New York Belting & Packing Co., N. Y.
New York Rubber Co., New York.
North British Rubber Co., Ltd., Edinburgh.
Peerless Rubber Mfg. Co., New York.
Pirelli & Co., Milan, Italy.
Republic Rubber Co., Youngstown, O.
Revere Rubber Co., Boston.
Standard Rubber Co., Trenton, N. J.
J. S. Stokes Rubber Co., Trenton, N. J.
Trenton Rubber Mfg. Co., Trenton, N. J.
Voorhees Rubber Mfg. Co., Jersey City.
Western Rubber Co., Goeban, Ind.

Air Brake Hose.

Boston Felt Co., Boston-New York.
Boston Woven Hose & Rubber Co.
Canadian Rubber Co. of Montreal.
Electric Hose & Rubber Co., Wilming-
ton, Del.
Acme Rubber Mfg. Co., Trenton.
H. F. Goodrich Co., Akron, O.

Air Brake Hose—Continued.

Gutta Percha & Rubber Mfg. Co., N. Y.
The Gutta Percha & Rubber Mfg. Co.
of Toronto, Ltd.
Home Rubber Co., Trenton, N. J.
N. J. Car Spring & Rubber Co., Jersey
City.
New York Belting & Packing Co., N. Y.
Peerless Rubber Mfg. Co., New York.
Republic Rubber Co., Youngstown, O.
Revere Rubber Co., Boston-New York.
Voorhees Rubber Mfg. Co., Jersey City.

Belting (Canvas).

Boston Woven Hose & Rubber Co.
Canadian Rubber Co. of Montreal.
Eureka Fire Hose Co., New York.
The Gutta Percha & Rubber Mfg. Co.,
of Toronto, Ltd.
Peerless Rubber Mfg. Co., New York.
Revere Rubber Co., Boston-New York.

Billiard Cushions

Boston Belting Co., Boston.
Canadian Rubber Co. of Montreal.
Continental Rubber Works, Erie, Pa.
B. F. Goodrich Co., Akron, O.
Gutta Percha & Rubber Mfg. Co., N. Y.
Manhattan Rubber Mfg. Co., New York.
New York Belting & Packing Co., Ltd.
New York Rubber Co., New York.
Revere Rubber Co., Boston-New York.

Blankets—Printers'

Peerless Rubber Mfg. Co., New York.
Boston Belting Co., Boston.
Canadian Rubber Co. of Montreal.
B. F. Goodrich Co., Akron, O.

Blankets—Printers'.—Continued.

Gutta Percha & Rubber Mfg. Co., N. Y.
Hodgman Rubber Co., New York.
Gustave Kush, New York.
Revere Rubber Co., Boston-New York.
Voorhees Mfg. Co., Jersey City.

Brushes

Allen Mfg. Co., Toledo, Ohio.
Boston Woven Hose & Rubber Co.
C. J. Bailey & Co., Boston.

Buffers.

Boston Belting Co., Boston-New York.
Canadian Rubber Co. of Montreal.
Continental Rubber Works, Erie, Pa.
B. F. Goodrich Co., Akron, O.
Gutta, Percha & Rubber Mfg. Co., N. Y.

Percha & Rubber Mfg. Co.

National India Rubber Co., Bristol, R. I.

Card Cloths.

Canadian Rubber Co. of Montreal.
Mechanical Fabric Co., Providence, R. I.

Carriage Mats.

Continental Rubber Works, Erie, Pa.
Acme Rubber Mfg. Co., Trenton.
Boston Belting Co., Boston-New York.
Boston Woven Hose & Rubber Co.
Canadian Rubber Co. of Montreal.
B. F. Goodrich Co., Akron, O.
Gutta Percha & Rubber Mfg. Co., N. Y.
The Gutta Percha & Rubber Mfg. Co.
of Toronto, Ltd.
Home Rubber Co., Trenton, N. J.
National India Rubber Co., Bristol, E. I.

RUBBER BUYERS' DIRECTORY—Continued.

Carriage Mats.—Continued.

H. J. Car Spring & Rubber Co., Jersey City, N. J.
Peerless Rubber Mfg. Co., New York.
Revere Rubber Co., Boston, Mass.
Voorhees Rubber Mfg. Co., Jersey City.

Cord (Pure Rubber).

Acme Rubber Mfg. Co., Trenton.
Boston Belting Co., Boston-New York.
Boston Woven Hose & Rubber Co., Cleveland, O.
Continental Rubber Works, Erie, Pa.
Daval Rubber Co., Providence, R. I.
Electric Hose & Rubber Co., Wilmington, Del.
Empire Rubber Mfg. Co., Trenton, N. J.
B. F. Goodrich Co., Akron, O.
Gutta Percha & Rubber Mfg. Co., N. Y.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
Republic Rubber Co., Youngstown, O.
Revere Rubber Co., Boston-New York.
Voorhees Rubber Mfg. Co., Jersey City.

Deckle Straps.

Boston Belting Co., Boston.
Canadian Rubber Co., of Montreal.
B. F. Goodrich Co., Akron, O.
Mechanical Rubber Co., Chicago.
New York Belting & Packing Co., N. Y.
Revere Rubber Co., Youngstown, O.
Revere Rubber Co., Boston-New York.

Door Springs.

Hodgman Rubber Co., New York.

Dredging Sleeves.

Acme Rubber Mfg. Co., Trenton.
Boston Belting Co., Boston-New York.
Boston Woven Hose & Rubber Co., Cleveland, O.
Canadian Rubber Co., of Montreal.
Continental Rubber Works, Erie, Pa.
B. F. Goodrich Co., Akron, O.
Gutta Percha & Rubber Mfg. Co., N. Y.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
Home Rubber Co., Trenton, N. J.
H. J. Car Spring & Rubber Co., Jersey City.
New York Belting & Packing Co., N. Y.
Revere Rubber Co., Youngstown, O.
Revere Rubber Co., Boston, Mass.

Force Cups.

The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
Hodgman Rubber Co., New York.
National India Rubber Co., Bristol, R. I.

Fruit Jar Rings.

Acme Rubber Mfg. Co., Trenton.
Boston Woven Hose & Rubber Co., Cleveland, O.
Canadian Rubber Co., of Montreal.
Cincinnati Rubber Mfg. Co., Cincinnati, Ohio.
Continental Rubber Co., Cleveland, O.
Continental Rubber Works, Erie, Pa.
B. F. Goodrich Co., Akron, O.
Empire Rubber Mfg. Co., Trenton, N. J.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
Manhattan Rubber Mfg. Co., New York.
Republic Rubber Co., Youngstown, O.
New York Belting & Packing Co., N. Y.

Fuller Balls.

Continental Rubber Works, Erie, Pa.
B. F. Goodrich Co., Akron, O.
Jenkins Bros., New York.
National India Rubber Co., Bristol, R. I.
H. J. Car Spring & Rubber Co., Jersey City.
New York Belting & Packing Co., N. Y.
Peerless Rubber Mfg. Co., New York.
Republic Rubber Co., Youngstown, O.

Gage Glass Washers.

Boston Belting Co., Boston, Mass.
Canadian Rubber Co., of Montreal.
Cleveland Rubber Co., Cleveland, O.
Continental Rubber Works, Erie, Pa.
Electric Hose & Rubber Co., Wilmington, Del.
Empire Rubber Mfg. Co., Trenton, N. J.
B. F. Goodrich Co., Akron, O.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
Home Rubber Co., Trenton, N. J.
Jenkins Bros., New York.
Manhattan Rubber Mfg. Co., New York.
Mechanical Rubber Co., Chicago, Ill.
National India Rubber Co., Bristol, R. I.
H. J. Car Spring & Rubber Co., Jersey City, N. J.
New York Belting & Packing Co., N. Y.
New York Rubber Co., New York.

Gage Glass Washers.—Continued.

Revere Rubber Co., Boston, Mass.
Jos. Stokes Rubber Co., Trenton, N. J.
Voorhees Rubber Mfg. Co., Jersey City, N. J.

Gas-Bags (Rubber).

Canadian Rubber Co., of Montreal.
Cleveland Rubber Co., Cleveland, O.
Davidson Rubber Co., Boston.
Daval Rubber Co., Providence, R. I.
B. F. Goodrich Co., Akron, O.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
National India Rubber Co., Bristol, R. I.
Peerless Rubber Mfg. Co., New York.
Tyrer Rubber Co., Andover, Mass.
Voorhees Rubber Mfg. Co., Jersey City.

Gasket Tubing.

Canadian Rubber Co., of Montreal.
Continental Rubber Works, Erie, Pa.
B. F. Goodrich Co., Akron, O.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
Jenkins Bros., New York.
National India Rubber Co., Bristol, R. I.
New Jersey Car Spring & Rubber Co., Trenton, N. J.
Revere Rubber Co., Boston.

Grain Drill Tubes.

Cincinnati Rubber Co., Cincinnati, Ohio.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.

Hat Bags.

Boston Belting Co., Boston.
Canadian Rubber Co., of Montreal.
Continental Rubber Works, Erie, Pa.
B. F. Goodrich Co., Akron, O.
Home Rubber Co., Trenton, N. J.
Manhattan Rubber Mfg. Co., New York.
Mattson Rubber Co., Chicago.
Mechanical Rubber Co., Chicago.
N. J. Car Spring & Rubber Co., Jersey City, N. J.
New York Belting & Packing Co., N. Y.
New York Rubber Co., New York.
Peerless Rubber Mfg. Co., New York.
Republic Rubber Co., Youngstown, O.
Revere Rubber Co., Boston.

Horse Shoe Pads.

Canadian Rubber Co., of Montreal.
Continental Rubber Works, Erie, Pa.
Home Rubber Co., Trenton, N. J.
Peerless Rubber Mfg. Co., New York.
Plymouth Rubber Co., Stoughton, Mass.
Revere Rubber Co., Boston-New York.
Voorhees Rubber Mfg. Co., Jersey City.

Hose—Wire Wound.

Acme Rubber Mfg. Co., Trenton.
Boston Belting Co., Boston-New York.
Boston Woven Hose & Rubber Co., Cleveland, O.
Canadian Rubber Co., of Montreal.
Continental Rubber Works, Erie, Pa.
Electric Hose & Rubber Co., Wilmington, Del.
B. F. Goodrich Co., Akron, O.
Gutta Percha & Rubber Mfg. Co., N. Y.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
National India Rubber Co., Bristol, R. I.
N. J. Car Spring & Rubber Co., Jersey City.
New York Belting & Packing Co., N. Y.
Peerless Rubber Mfg. Co., New York.
Republic Rubber Co., Youngstown, O.
Revere Rubber Co., Boston-New York.
Voorhees Rubber Mfg. Co., Jersey City.

Hose Core.

Alderfer Crute Co., Sharon Center, O.

Hose Pipes, Nozzles, Couplings and Fittings.

Boston Woven Hose & Rubber Co., Cleveland, O.
Canadian Rubber Co., of Montreal.
Eureka Fire Hose Co., New York.
Revere Rubber Co., Boston.
A. Schrader's Son, Inc., New York.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.

Hose Linings.

Acme Rubber Mfg. Co., Trenton.
Boston Belting Co., Boston-New York.
Boston Woven Hose & Rubber Co., Cleveland, O.
Empire Rubber Mfg. Co., Trenton, N. J.
Eureka Rubber Mfg. Co., Trenton, N. J.
B. F. Goodrich Co., Akron, O.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
N. J. Car Spring & Rubber Co., Jersey City, N. J.
Peerless Rubber Mfg. Co., New York.
Revere Rubber Co., Boston.

Hose Racks and Reels.

Gutta Percha & Rubber Mfg. Co., N. Y.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
New York Belting & Packing Co., N. Y.
Wirt & Knox Mfg. Co., Philadelphia.

Hose—Rubber Lined.

Cotton and Linen.
Acme Rubber Mfg. Co., Trenton.
Boston Belting Co., Boston-New York.
Boston Woven Hose & Rubber Co., Cleveland, O.
Gutta Percha & Rubber Mfg. Co., N. Y.
Canadian Rubber Co., of Montreal.
Cleveland Rubber Co., Cleveland, O.
Empire Rubber Mfg. Co., Trenton, N. J.
Eureka Fire Hose Co., New York.
Fabric Fire Hose Co., New York.
B. F. Goodrich Co., Akron, O.
Gutta Percha & Rubber Mfg. Co., N. Y.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
Home Rubber Co., Trenton, N. J.
Manhattan Rubber Mfg. Co., New York.
N. J. Car Spring & Rubber Co., Jersey City, N. J.
New York Belting & Packing Co., N. Y.
Peerless Rubber Mfg. Co., New York.
Republic Rubber Co., Youngstown, O.
Revere Rubber Co., Boston.
Jos. Stokes Rubber Co., Trenton, N. J.
Voorhees Rubber Mfg. Co., Jersey City.

Hose—Submarine.

Acme Rubber Mfg. Co., Trenton.
Boston Belting Co., Boston-New York.
Continental Rubber Works, Erie, Pa.
Electric Hose & Rubber Co., Wilmington, Del.
B. F. Goodrich Co., Akron, O.
Gutta Percha & Rubber Mfg. Co., N. Y.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
Republic Rubber Co., Youngstown, O.
Revere Rubber Co., Boston.
A. Schrader's Son, Inc., New York.

Hose Bands, Straps & Menders.

Boston Woven Hose & Rubber Co., William Yerdon, Fort Plain, N. Y.

Lawn-Hose Supporters.

O. J. Bailey & Co., Boston.

Lawn Sprinklers.

W. D. Allen Mfg. Co., Chicago.
Boston Woven Hose & Rubber Co., Canadian Rubber Co., of Montreal.

Mallets (Rubber).

Boston Belting Co., Boston-New York.
Continental Rubber Works, Erie, Pa.
B. F. Goodrich Co., Akron, O.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
National India Rubber Co., Bristol, R. I.
New York Belting & Packing Co., N. Y.
Peerless Rubber Mfg. Co., New York.
Revere Rubber Co., Boston-New York.

Mould Work.

(See Mechanical Rubber Goods.)
H. O. Canfield Co., Bridgeport, Ct.
Continental Rubber Works, Erie, Pa.
Davidson Rubber Co., Boston.
Daval Rubber Co., Providence, R. I.
Faultless Rubber Co., Akron, O.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
Hodgman Rubber Co., New York.
La Crosse (Wis.) Rubber Mills Co., Massachusetts Chemical Co., Walpole, Mass.
Mattson Rubber Co., New York.
Milford Rubber Works, Milford, Ill.
Mittel Rubber Co., Akron, O.
Plymouth Rubber Co., Stoughton, Mass.
Tyrer Rubber Co., Andover, Mass.
Western Rubber Works, Goshen, Ind.

Oil Well Supplies.

Boston Belting Co., Boston-New York.
Boston Woven Hose & Rubber Co., Cleveland, O.
Continental Rubber Works, Erie, Pa.
B. F. Goodrich Co., Akron, O.
Gutta Percha & Rubber Mfg. Co., N. Y.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
Home Rubber Co., Trenton, N. J.
Lake Shore Rubber Co., Erie, Pa.
N. J. Car Spring & Rubber Co., Jersey City.
New York Belting & Packing Co., N. Y.
Peerless Rubber Mfg. Co., New York.

Oil Well Supplies.—Continued.

Republic Rubber Co., Youngstown, O.
Revere Rubber Co., Boston-Pittsburgh.
Voorhees Rubber Mfg. Co., Jersey City.

Packing.

Alfred Calmon, Ltd., London.
Jenkins Bros., New York.
New Jersey Car Spring & Rubber Co.
Voorhees Rubber Mfg. Co., Jersey City.

Paper Machine Rollers.

Boston Belting Co., Boston-New York.
B. F. Goodrich Co., Akron, O.
Gutta Percha & Rubber Mfg. Co., N. Y.
New York Belting & Packing Co., N. Y.
Peerless Rubber Mfg. Co., New York.
Republic Rubber Co., Youngstown, O.
Revere Rubber Co., Boston-New York.
Voorhees Rubber Mfg. Co., Jersey City.

Plumbers' Supplies.

Canadian Rubber Co., of Montreal.
H. O. Canfield Co., Bridgeport, Ct.
Continental Rubber Works, Erie, Pa.
B. F. Goodrich Co., Akron, O.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
Republic Rubber Co., Youngstown, O.
Western Rubber Works, Goshen, Ind.

Pump Valves.

(See Mechanical Rubber Goods.)
Continental Rubber Works, Erie, Pa.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
Jenkins Bros., New York.
New York Belting & Packing Co., N. Y.
Revere Rubber Co., Boston, Mass.
Western Rubber Works, Goshen, Ind.

Rollers—Rubber Covered.

Boston Belting Co., Boston.
Canadian Rubber Co., of Montreal.
Cleveland Rubber Co., Cleveland, O.
Continental Rubber Works, Erie, Pa.
Empire Rubber Mfg. Co., Trenton, N. J.
B. F. Goodrich Co., Akron, O.
Gutta Percha & Rubber Mfg. Co., N. Y.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
Home Rubber Co., Trenton, N. J.
Manhattan Rubber Mfg. Co., New York.
Mechanical Rubber Co., Chicago.
N. J. Car Spring & Rubber Co., Jersey City, N. J.
New York Belting & Packing Co., N. Y.
Peerless Rubber Mfg. Co., New York.
Plymouth Rubber Co., Stoughton, Mass.
Republic Rubber Co., Youngstown, O.
Revere Rubber Co., Boston-New York.

Sewing Machine Rollers.

Continental Rubber Works, Erie, Pa.
B. F. Goodrich Co., Akron, O.

Springs—Rubber.

Acme Rubber Mfg. Co., Trenton.
Boston Belting Co., Boston-New York.
Canadian Rubber Co., of Montreal.
Continental Rubber Works, Erie, Pa.
B. F. Goodrich Co., Akron, O.
Gutta Percha & Rubber Mfg. Co., N. Y.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
National India Rubber Co., Bristol, R. I.
N. J. Car Spring & Rubber Co., Jersey City.
New York Belting & Packing Co., N. Y.
Peerless Rubber Mfg. Co., New York.
Plymouth Rubber Co., Stoughton, Mass.
Republic Rubber Co., Youngstown, O.
Revere Rubber Co., Boston-New York.
Voorhees Rubber Mfg. Co., Jersey City.

Stair Treads.

Acme Rubber Mfg. Co., Trenton.
Boston Belting Co., Boston-New York.
Boston Woven Hose & Rubber Co., Cleveland, O.
Canadian Rubber Co., of Montreal.
Cleveland Rubber Co., Cleveland, O.
Continental Rubber Works, Erie, Pa.
Empire Rubber Mfg. Co., Trenton, N. J.
B. F. Goodrich Co., Akron, O.
Gutta Percha & Rubber Mfg. Co., N. Y.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
Home Rubber Co., Trenton, N. J.
Manhattan Rubber Mfg. Co., New York.
National India Rubber Co., Bristol, R. I.
N. J. Car Spring & Rubber Co., Jersey City, N. J.
New York Belting & Packing Co., N. Y.
New York Rubber Co., New York.
Peerless Rubber Mfg. Co., New York.
Republic Rubber Co., Youngstown, O.
Revere Rubber Co., Boston-New York.
Voorhees Rubber Mfg. Co., Jersey City.

RUBBER BUYERS' DIRECTORY—Continued.

Thread.

B. F. Goodrich Co., Akron, O.
Mechanical Fabric Co., Providence, R. I.
Revere Rubber Co., Boston.

Tiling.

Canadian Rubber Co., of Montreal, Ltd.
Continental Rubber Works, Erie, Pa.
B. F. Goodrich Co., Akron, O.
Gutta Percha & Rubber Mfg. Co., N. Y.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
N. J. Car Spring & Rubber Co., Jersey City.

New York Belting & Packing Co., N. Y.
Peerless Rubber Mfg. Co., New York.
Republic Rubber Co., Youngstown, O.
Voorhees Rubber Mfg. Co., Jersey City.

Tubing.

(See Mechanical Rubber Goods.)
American Hard Rubber Co., New York.
Continental Rubber Works, Erie, Pa.
Davidson Rubber Co., Boston.
Daval Rubber Co., Providence, R. I.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.

Laurel Rubber Co., Garfield, N. J.
Plymouth Rubber Co., Stoughton, Mass.
New Jersey Car Spring & Rubber Co., New York.
New York Belting & Packing Co., N. Y.
Tyer Rubber Co., Andover, Mass.

Valve Balls.

Boston Belting Co., Boston.
Cleveland Rubber Co., Cleveland, O.
Continental Rubber Works, Erie, Pa.
B. F. Goodrich Co., Akron, O.
Jenkins Bros., New York.
Manhattan Rubber Mfg. Co., New York.
Mechanical Rubber Co., Chicago.
National India Rubber Co., Bristol, R. I.
New York Belting & Packing Co., N. Y.
New York Rubber Co., New York.
Peerless Rubber Mfg. Co., New York.
Republic Rubber Co., Youngstown, O.
Revere Rubber Co., Boston.

Valve Discs.

American Hard Rubber Co., New York.
Boston Belting Co., Boston-New York.
Continental Rubber Works, Erie, Pa.
B. F. Goodrich Co., Akron, O.
Jenkins Bros., New York.
New York Belting & Packing Co., N. Y.
Peerless Rubber Mfg. Co., New York.
Republic Rubber Co., Youngstown, O.
Western Rubber Works, Goshen, Ind.

Valves.

(See Mechanical Rubber Goods.)
Continental Rubber Works, Erie, Pa.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
Jenkins Bros., New York-Chicago.
Milford Rubber Works Co., Milford, Ill.
New Jersey Car Spring & Rubber Co., New York.
New York Belting & Packing Co., N. Y.
Vulcanite Emery Wheels,
Manhattan Rubber Mfg. Co., Passaic, N. J.
New York Belting & Packing Co., Ltd., New York.

Wringer Rolls.

Canadian Rubber Co., of Montreal.
Cleveland Rubber Co., Cleveland, O.
Continental Rubber Works, Erie, Pa.
B. F. Goodrich Co., Akron, O.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
Home Rubber Co., Trenton, N. J.
New York Belting & Packing Co., N. Y.
Republic Rubber Co., Youngstown, O.

DRUGGISTS' AND STATIONERS' SUNDRIES.

Atomizers.

Bandages.

Bulbs.

Syringes.

Water Bottles.

Druggists' Sundries—General.

Allen Mfg. Co., Toledo, Ohio.
American Hard Rubber Co., New York.
C. J. Bailey & Co., Boston.
Boston Woven Hose & Rubber Co.
Canadian Rubber Co., of Montreal.
Canton Rubber Co., Canton, O.
Cleveland Rubber Co., Cleveland, O.
Davidson Rubber Co., Boston.
Daval Rubber Co., Providence, R. I.
Faultless Rubber Co., Akron, O.
B. F. Goodrich Co., Akron, O.
Hodgman Rubber Co., New York.
Hygeia Nursing Bottle Co., Buffalo, N. Y.
Imperial Rubber Mfg. Co., Beach City, O.
Luzerne Rubber Co., Trenton, N. J.
Mittel Rubber Co., Akron, O.

Druggists' Sundries—General—Continued.

National India Rubber Co., Bristol, R. I.
North British Rubber Co., Ltd., Edinburgh.

Pirelli & Co., Milan, Italy.
Seamless Rubber Co., New Haven, Ct.
Tyer Rubber Co., Andover, Mass.

Balls, Dolls and Toys.

New York Rubber Co., New York.

Combs.

American Hard Rubber Co., New York.

Elastic Bands.

Canadian Rubber Co., of Montreal.
Cleveland Rubber Co., Cleveland, O.
Daval Rubber Co., Providence, R. I.
B. F. Goodrich Co., Akron, O.
Hodgman Rubber Co., New York-Boston.
Tyer Rubber Co., Andover, Mass.

Erassive Rubbers.

Davidson Rubber Co., Boston.
B. F. Goodrich Co., Akron, O.
Mattson Rubber Co., New York.

Finger Cots.

Cleveland Rubber Co., Cleveland, O.
Davidson Rubber Co., Boston.
Faultless Rubber Mfg. Co., Akron, O.
B. F. Goodrich Co., Akron, O.
Imperial Rubber Mfg. Co., Beach City, O.
The Rubber Products Co., Barberton, O.

Gloves.

Canadian Rubber Co., of Montreal.
Daval Rubber Co., Providence, R. I.
Faultless Rubber Co., Akron, O.
B. F. Goodrich Co., Akron, O.
Imperial Rubber Mfg. Co., Beach City, O.
National India Rubber Co., Bristol, R. I.
Rubber Products Co., Barberton, O.

Hard Rubber Goods.

American Hard Rubber Co., New York.
Canadian Rubber Co., of Montreal.
H. O. Canfield Co., Bridgeport, Ct.
Daval Rubber Co., Providence, R. I.
Household Rubber Co., Youngstown, O.
Stokes Rubber Co., Joseph, Trenton, N. J.
Tyer Rubber Co., Andover, Mass.

Hospital Sheeting.

Cleveland Rubber Co., Cleveland, O.
Daval Rubber Co., Providence, R. I.
B. F. Goodrich Co., Akron, O.
Hodgman Rubber Co., New York.
National India Rubber Co., Bristol, R. I.
Plymouth Rubber Co., Stoughton, Mass.
Tyer Rubber Co., Andover, Mass.

Ice Bags and Ice Caps.

Cleveland Rubber Co., Cleveland, O.
Davidson Rubber Co., Boston.
Faultless Rubber Co., Akron, O.
B. F. Goodrich Co., Akron, O.
Imperial Rubber Mfg. Co., Beach City, O.
National India Rubber Co., Bristol, R. I.
The Rubber Products Co., Barberton, O.
Tyer Rubber Co., Andover, Mass.

Life Preservers.

Hodgman Rubber Co., New York.
National India Rubber Co., Bristol, R. I.

Nipples.

Canadian Rubber Co., of Montreal.
Cleveland Rubber Co., Cleveland, O.
Davidson Rubber Co., Boston.
Daval Rubber Co., Providence, R. I.
Faultless Rubber Co., Akron, O.
B. F. Goodrich Co., Akron, O.
Hygeia Nursing Bottle Co., Buffalo, N. Y.
Imperial Rubber Mfg. Co., Beach City, O.
The Rubber Products Co., Barberton, O.
Tyer Rubber Co., Andover, Mass.

Portable Bath Outfits.

Allen Mfg. Co., Toledo, Ohio.

Shower Bath Sprinklers.

A. Schrader's Son, Inc., New York.

Sponges (Rubber).

Geo. Borgfeldt & Co., New York.
Faultless Rubber Co., Ashland, O.
N. Tire Rubber Sponge Co., Chicago.

Stationers' Sundries.

American Hard Rubber Co., New York.
Boston Woven Hose & Rubber Co.
Canadian Rubber Co., of Montreal.
Cincinnati Rubber Mfg. Co., Cincinnati, Ohio.
Cleveland Rubber Co., Cleveland, O.
Davidson Rubber Co., Boston.
Daval Rubber Co., Providence, R. I.
B. F. Goodrich Co., Akron, O.
Hodgman Rubber Co., New York-Boston.
Seamless Rubber Co., New Haven, Ct.
Tyer Rubber Co., Andover, Mass.

Stopples (Rubber).

Cleveland Rubber Co., Cleveland, O.
Daval Rubber Co., Providence, R. I.
Hodgman Rubber Co., New York.
Manhattan Rubber Mfg. Co., New York.
National India Rubber Co., Bristol, R. I.
New York Belting & Packing Co., N. Y.
A. Schrader's Son, Inc., New York.
Tyer Rubber Co., Andover, Mass.

Throat Bags.

Cleveland Rubber Co., Cleveland, O.
Davidson Rubber Co., Boston.
Daval Rubber Co., Providence, R. I.
B. F. Goodrich Co., Akron, O.
National India Rubber Co., Bristol, R. I.
Tyer Rubber Co., Andover, Mass.

Tobacco Pouches.

Canadian Rubber Co., of Montreal.
Davidson Rubber Co., Boston.
Faultless Rubber Co., Akron, O.
B. F. Goodrich Co., Akron, O.
The Rubber Products Co., Barberton, O.
Tyer Rubber Co., Andover, Mass.

MACKINTOSHED AND SURFACE GOODS.

Air Goods (Rubber).

Canadian Rubber Co., of Montreal.
Cleveland Rubber Co., Cleveland, O.
Davidson Rubber Co., Boston.
Daval Rubber Co., Providence, R. I.
B. F. Goodrich Co., Akron, O.
Hodgman Rubber Co., New York.
New York Rubber Co., New York.
National India Rubber Co., Providence.
Tyer Rubber Co., Andover, Mass.

Air Mattresses.

Canadian Rubber Co., of Montreal.
Mechanical Fabric Co., Providence, R. I.
National India Rubber Co., Bristol, R. I.

Barbers' Bibs.

Cleveland Rubber Co., Cleveland, O.
Daval Rubber Co., Providence, R. I.
Tyer Rubber Co., Andover, Mass.

Bathing Caps.

Daval Rubber Co., Providence, R. I.
B. F. Goodrich Co., Akron, O.

Bellows Cloths.

Boston Rubber Co., Boston.
Cleveland Rubber Co., Cleveland, O.
Hodgman Rubber Co., New York.
La Crosse (Wis.) Rubber Mills Co.

Calendering.

La Crosse (Wis.) Rubber Mills Co.
Plymouth Rubber Co., Stoughton, Mass.

Carriage Ducks and Drills.

Cleveland Rubber Co., Cleveland, O.
Empire Rubber Mfg. Co., Trenton, N. J.
Gutta Percha & Rubber Mfg. Co., Toronto.
National India Rubber Co., Bristol, R. I.

Clothing.

Canadian Rubber Co., of Montreal.
Cleveland Rubber Co., Cleveland, O.
Granby Rubber Co., Granby, Quebec.
Gutta Percha & Rubber Mfg. Co., of Toronto.
Hodgman Rubber Co., New York.
La Crosse (Wis.) Rubber Mills Co.
National India Rubber Co., Bristol, R. I.
North British Rubber Co., Ltd., Edinburgh.
Pirelli & Co., Milan, Italy.

Cravenette.

Cravenette Co., Ltd.

Diving Apparatus.

A. Schrader's Son, Inc., New York.

Diving Dresses.

Hodgman Rubber Co., New York.

Dress Shields.

Mattson Rubber Co., New York.

Horse Covers.

Hodgman Rubber Co., New York.
National India Rubber Co., Bristol, R. I.

Leggings.

Cleveland Rubber Co., Cleveland, O.
Hodgman Rubber Co., New York.
National India Rubber Co., Bristol, R. I.

Mackintoshes.

(See Clothing.)

Proofing.

Canadian Rubber Co., of Montreal.
La Crosse (Wis.) Rubber Mills Co.
Plymouth Rubber Co., Stoughton, Mass.

Rain Coats.

Cravenette Co., Ltd.

Rubber Coated Cloths.

Mechanical Fabric Co., Providence, R. I.

RUBBER FOOTWEAR.

Boots and Shoes.

American Rubber Co., Boston.
Boston Rubber Shoe Co., Boston.
Canadian Rubber Co., of Montreal.
L. Candee & Co., New Haven, Ct.
B. F. Goodrich Co., Akron, O.
Granby Rubber Co., Granby, Quebec.
Gutta Percha & Rubber Mfg. Co., of Toronto.
Hood Rubber Co., Boston.
Lycorning Rubber Co., Williamsport, Pa.
Meyer Rubber Co., New York.
Milford Rubber Works Co., Milford, Ill.
National India Rubber Co., Boston.
North British Rubber Co., Ltd., Edinburgh.
United States Rubber Co., New York.
Wales-Goodyear Rubber Co., Boston.
Woonsocket Rubber Co., Providence.

Heels and Soles.

Boston Woven Hose & Rubber Co.
Canadian Rubber Co., of Montreal.
Continental Caoutchouc & Gutta-percha Co., Hanover.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
Plymouth Rubber Co., Stoughton, Mass.
Western Rubber Works, Goshen, Ind.

Tennis Shoes.

American Rubber Co., Boston.
Boston Rubber Shoe Co., Boston.
Granby Rubber Co., Granby, Quebec.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
La Crosse Rubber Mills Co., La Crosse, Wis.
National India Rubber Co., Providence.
United States Rubber Co., New York.

Wading Pants.

Canadian Rubber Co., of Montreal.
Hodgman Rubber Co., New York.

DENTAL AND STAMP RUBBER.

Dental Gum.

American Hard Rubber Co., New York.
Cleveland Rubber Co., Cleveland, O.
Tyer Rubber Co., Andover, Mass.

Rubber Dam.

Cleveland Rubber Co., Cleveland, O.
Davidson Rubber Co., Boston.
Daval Rubber Co., Providence, R. I.
B. F. Goodrich Co., Akron, O.
Hodgman Rubber Co., New York.
Tyer Rubber Co., Andover, Mass.

Stamp Gum.

B. F. Goodrich Co., Akron, O.
Mattson Rubber Co., New York.
Mechanical Rubber Co., Chicago, Ill.
N. J. Car Spring & Rubber Co., Jersey City, N. J.
New York Belting & Packing Co., N. Y.

ELECTRICAL.

Electrical Supplies.

American Hard Rubber Co., New York.
Lake Shore Rubber Co., Erie, Pa.
Joseph Stokes Rubber Co., Trenton, N. J.
Massachusetts Chemical Co., Boston.
Tyer Rubber Co., Andover, Mass.

Friction Tape.

Boston Belting Co., Boston.
Boston Woven Hose & Rubber Co.
Canadian Rubber Co., of Montreal.
Cleveland Rubber Co., Cleveland, O.
B. F. Goodrich Co., Akron, O.
Home Rubber Co., Trenton, N. J.
Massachusetts Chemical Co., Boston.
Mechanical Rubber Co., Chicago.
National India Rubber Co., Bristol, R. I.
Revere Rubber Co., Boston-New York.

RUBBER BUYERS' DIRECTORY—Continued.

Hard Rubber Goods.

American Hard Rubber Co., New York.
Canadian Rubber Co. of Montreal.
Davidson Rubber Co., Boston.
Joseph Stokes Rubber Co., Trenton, N. J.

Insulating Compounds.

Canadian Rubber Co. of Montreal.
Gutta-Percha & Rubber Mfg. Co., Toronto.

Insulated Wire and Cables.

National India Rubber Co., Providence.

Splicing Compounds.

Some Rubber Co., Trenton, N. J.
Massachusetts Chemical Co., Walpole, Mass.

SPORTING GOODS.

Foot Balls.

Canadian Rubber Co. of Montreal.
Cleveland Rubber Co., Cleveland, O.
Faultless Rubber Co., Akron, O.
B. F. Goodrich Rubber Co., Akron, O.
Hodgman Rubber Co., New York.
National India Rubber Co., Bristol, R. I.

Golf Balls.

Boston Belting Co., Boston.
Canadian Rubber Co. of Montreal.
Davidson Rubber Co., Boston.
B. F. Goodrich Rubber Co., Akron, O.
The Gutta Percha & Rubber Mfg. Co. of Toronto, Ltd.

Sporting Goods.

Canadian Rubber Co. of Montreal.
Faultless Rubber Co., Akron, O.
B. F. Goodrich Rubber Co., Akron, O.
Hodgman Rubber Co., New York.
Tyrer Rubber Co., Andover, Mass.

Striking Bags.

Canadian Rubber Co. of Montreal.
Cleveland Rubber Co., Cleveland, O.
Faultless Rubber Co., Akron, O.
B. F. Goodrich Rubber Co., Akron, O.
Rubber Products Co., Barberton, O.

Submarine Outfits.

Hodgman Rubber Co., New York.

MISCELLANEOUS.

Boiler Specialist.

H. W. Jones, New York.

Boxes (Wood).

Henry H. Shelp & Co., Philadelphia.

Brass Fittings.

A. Schrader's Son, Inc., New York.

Buckles.

The Weld Mfg. Co., Boston.

Cement (Rubber).

Boston Belting Co., Boston.
Canadian Rubber Co. of Montreal.
B. F. Goodrich Rubber Co., Akron, O.
Hadley Cement Co., Lynn, Mass.
Manhattan Rubber Mfg. Co., New York.
N. J. Car Spring & Rubber Co., Jersey City, N. J.
New York Belting & Packing Co., N. Y.

Chemical Analyses.

Durand Woodman, Ph.D., New York.
H. L. Terry, Manchester, England.

Chemical and Mechanical Engineers.

Charles E. Farrington, Boston.

Chemists.

Stephen P. Sharples, Boston, Mass.
Durand Woodman, Ph.D., New York.

Consulting Engineer.

M. P. Fillingham, New York.

Engraver.

P. C. Smith, Boston, Mass.

Recording Thermometers.

Bristol Co., New York.

Rubber Journals.

Gummi-Zeitung, Dresden, Germany.

Rubber Tree Seeds.

J. P. William & Bros., Heneratgoda, Ceylon.

Scrap Metals.

Robert L. Crooke, New York.

Valves for Air Goods.

A. Schrader's Son, Inc., New York.

MACHINERY AND SUPPLIES FOR RUBBER MILLS.

RUBBER MACHINERY.

Acid Tanks.

Birmingham Iron Foundry, Derby, Conn.

Band Cutting Machines.

A. Adamson, Akron, O.
Alton Machine Co., New York.
Birmingham Iron Foundry, Derby, Conn.

Belt Folding Machines.

Birmingham Iron Foundry, Derby, Conn.
Farrel Foundry & Mach. Co., Ansonia, Conn.

Belt Slitters.

Cloth Dryers.

Gearing.

Shafting.

Wrapping Machines.

Alton Machine Co., New York.
Birmingham Iron Foundry, Derby, Conn.
Farrel Foundry & Mach. Co., Ansonia, Conn.

Belt Stretchers.

Alton Machine Co., New York.
Birmingham Iron Foundry, Derby, Conn.
Farrel Foundry & Mach. Co., Ansonia, Conn.
Hogson & Pettis Mfg. Co., New Haven.

Boilers.

William R. Thropp, Trenton, N. J.
John E. Thropp & Sons Co., Trenton, N. J.

Braiders.

New England Butt Co., Providence, R. I.
Textile Machine Works, Reading, Pa.

Cabling Machinery.

Alton Machine Co., New York.

Calenders.

Alton Machine Co., New York.
Birmingham Iron Foundry, Derby, Conn.
David Bridge & Co., Castleton, Manchester, Eng.
Farrel Foundry & Mach. Co., Ansonia, Conn.
Textile-Finishing Machinery Co., Providence, R. I.
Textile Machine Works, Reading, Pa.

Castings.

A. Adamson, Akron, O.
Birmingham Iron Foundry, Derby, Conn.
Farrel Foundry & Mach. Co., Ansonia, Conn.

Chucks (Lathes).

Hogson & Pettis Mfg. Co., New Haven.

Churns.

American Tool & Machine Co., Boston.

Clutches.

Farrel Foundry & Mach. Co., Ansonia, Conn.

Crackers.

Alton Machine Co., New York.
Birmingham Iron Foundry, Derby, Conn.

Devulcanizers.

Alton Machine Co., New York.
Biggs Boiler Works Co., Akron, O.
Birmingham Iron Foundry, Derby, Conn.
Edred W. Clark, Hartford, Conn.
William R. Thropp, Trenton, N. J.

Dies.

John J. Adams, Worcester, Mass.
Hogson & Pettis Mfg. Co., New Haven.
Joseph E. Knox & Co., Lynn, Mass.

Doubling Machines.

American Tool & Machine Co., Boston.

Drying Apparatus.

American Process Co., New York.

Drying Machines.

Alton Machine Co., New York.
David Bridge & Co., Castleton, Manchester, Eng.
Joseph P. Devine, Buffalo, N. Y.
Birmingham Iron Foundry, Derby, Conn.
Textile-Finishing Machinery Co., Providence, R. I.

Embossing Calenders.

Textile-Finishing Machinery Co., Providence, R. I.

Engines, Steam.

Alton Machine Co., New York.
William R. Thropp, Trenton, N. J.
John E. Thropp & Sons Co., Trenton, N. J.

Engraving Rolls.

Hogson & Pettis Mfg. Co., New Haven.

Grinders and Mixers.

Alton Machine Co., New York.
Birmingham Iron Foundry, Derby, Conn.
Farrel Foundry & Mach. Co., Ansonia, Conn.
William R. Thropp, Trenton, N. J.

Hangers.

Farrel Foundry & Mach. Co., Ansonia, Conn.

Hose Machines.

A. Adamson, Akron, O.
Alton Machine Co., New York.
Birmingham Iron Foundry, Derby, Conn.
New England Butt Co., Providence, R. I.

Hydraulic Accumulators.

Birmingham Iron Foundry, Derby, Conn.
Farrel Foundry & Mach. Co., Ansonia, Conn.

Insulating Machinery.

Textile Machine Works, Reading, Pa.

Iron Castings.

Alton Machine Co., New York.

Lasts (Rubber Shoe).

Middlesex Last Co., Boston.

Lathes—Hard Rubber.

A. Adamson, Akron, O.

Lathes—Jar Ring.

A. Adamson, Akron, O.
Alton Machine Co., New York.
Birmingham Iron Foundry, Derby, Conn.
William R. Thropp, Trenton, N. J.

Machinists' Tools.

Hogson & Pettis Mfg. Co., New Haven.

Moulds.

A. Adamson, Akron, O.
Alton Machine Co., New York.
W. E. Arnold, Malden, Mass.
Barbour Bros., Trenton, N. J.
Birmingham Iron Foundry, Derby, Conn.
H. O. Canfield Co., Bridgeport, Conn.
Hogson & Pettis Mfg. Co., New Haven.
Williams Foundry & Machine Co., Akron, Ohio.

Pillow Blocks.

Farrel Foundry & Mach. Co., Ansonia, Conn.

Presses (for Rubber Work).

A. Adamson, Akron, O.
Alton Machine Co., New York.
Bay State Machine Co., Erie, Pa.
Birmingham Iron Foundry, Derby, Conn.
Boomer & Boschert Press Co., Syracuse, N. Y.
Edred W. Clark, Hartford, Conn.
Farrel Foundry & Mach. Co., Ansonia, Conn.
William R. Thropp, Trenton, N. J.
Williams Foundry & Machine Co., Akron, Ohio.

Pumps.

Alton Machine Co., New York.
Birmingham Iron Foundry, Derby, Conn.
Boomer & Boschert Press Co., Syracuse, N. Y.
Farrel Foundry & Mach. Co., Ansonia, Conn.

Racks for Boot and Shoe Cars.

Hogson & Pettis Mfg. Co., New Haven.

Reducing Valves.

Mason Regulator Co., Boston.

Rollers (Hand).

Hogson & Pettis Mfg. Co., New Haven.

Rubber Covering Machines.

Alton Machine Co., New York.

New England Butt Co., Providence, R. I.

Separators.

Turner, Vaughn & Taylor Co., Cuyahoga Falls, O.

Separators for Reclaimed Rubber.

American Process Co., New York.

Special Rubber Machinery.

Alton Machine Co., New York.

Wellman Co., Medford, Mass.

Spreaders.

Alton Machine Co., New York.
American Tool & Machine Co., Boston.
Birmingham Iron Foundry, Derby, Conn.
New England Butt Co., Providence, R. I.

Steam Traps and Specialties.

Jenkins Bros., New York.

Mason Regulator Co., Boston.

Osgood Sayen, Philadelphia, Pa.

Steel Stamps.

Hogson & Pettis Mfg. Co., New Haven.

Stitchers (Hand).

Hogson & Pettis Mfg. Co., New Haven.

Strip Covering Machines.

Strip Cutters.

Alton Machine Co., New York.
New England Butt Co., Providence, R. I.

Tire Molds.

Bay State Machine Co., Erie, Pa.
Williams Foundry & Machine Co., Akron, O.

Tubing Machines.

A. Adamson, Akron, O.
Alton Machine Co., New York.
Bay State Machine Co., Erie, Pa.
Edred W. Clark, Hartford, Conn.
John Royle & Sons, Paterson, N. J.
Textile Machine Works, Reading, Pa.
Williams Foundry & Machine Co., Akron, Ohio.

Vacuum Drying Chambers.

Alton Machine Co., New York.
Joseph P. Devine Co., Buffalo, N. Y.
F. J. Stokes Machine Co., Philadelphia, Pa.

Varnishing Machines.

Birmingham Iron Foundry, Derby, Conn.

Vulcanizers.

Alton Machine Co., New York.
Biggs Boiler Works Co., Akron, O.
Birmingham Iron Foundry, Derby, Conn.
Farrel Foundry & Mach. Co., Ansonia, Conn.
John E. Thropp's Sons Co., Trenton, N. J.
William R. Thropp, Trenton, N. J.

Washers.

Alton Machine Co., New York.
Birmingham Iron Foundry, Derby, Conn.
David Bridge & Co., Castleton, Manchester, Eng.
Continental Rubber Works, Erie, Pa.
Farrel Foundry & Mach. Co., Ansonia, Conn.
William R. Thropp, Trenton, N. J.
Turner, Vaughn & Taylor Co., Cuyahoga Falls, O.

Wire Insulating Machines.

Alton Machine Co., New York.

New England Butt Co., Providence, R. I.

Wire Rope Machinery.

Alton Machine Co., New York.

SECOND-HAND MACHINERY.

Philip McGorry, Trenton, N. J.
M. Norton & Co., Charlestown, Mass.

FACTORY SUPPLIES.

Aluminum Flake.

Aluminum Flake Co., Akron, O.

Antimony, Sulphurets of.

Golden.

Actien-Ges. Georg Egestorff's Salzwärke

Linden, Germany.

Atlas Chemical Co., Newtonville, Mass.

Golden and Crimason.

Joseph Cantor, New York.

Geo. F. Lufbery, Jr., Elizabeth, N. J.

MACHINERY AND SUPPLIES FOR RUBBER MILLS—Continued.**Antimony, Sulphurets of.—Continued.**

Golden and Crimson.
Wm. H. Scheel, New York.
Stamford (Conn.) Rubber Supply Co.
Typke & King, London, England.

Balata.

George A. Alden & Co., Boston.
Raw Products Co., New York.

Benzol.

Samuel Cabot, Boston.

Black Hypo.

Joseph Cantor, New York.
William H. Scheel, New York.
Typke & King, London, England.

Carbon Bisulphide.

George W. Speaight, New York.

Chemicals.

George W. Speaight, New York.
S. P. Wetherill Co., Philadelphia, Pa.

Colors.

Joseph Cantor, New York.
William H. Scheel, New York.
Typke & King, London, England.
S. P. Wetherill Co., Philadelphia, Pa.

Crude Rubber.

George A. Alden & Co., Boston.
A. W. Bruan & Co., New York.
Walter L. Gough & Co., New York.
Hagermeyer & Brunn, New York.
Adolph Hirsch & Co., New York.
Livesey & Co., Ltd., New York.
Raw Products Co., New York.
Rubber Trading Co., New York-Boston.

Dermatine.

The Dermatine Co., London.

Ducks and Drills (Cotton).

J. H. Lane & Co., New York.

Gilsonite.

William H. Scheel, New York.

Graphite.

United States Graphite Co., Philadelphia.

Graphite Grease.

Jos. Dixon Crucible Co., Jersey City.

Guayule Rubber.

Continental Rubber Co.
Ed. Maurer, New York.

Gutta-Percha.

George A. Alden & Co., Boston.
Raw Products Co., New York.
Rubber Trading Co., New York-Boston.

Hydro-Carbon Products.

Geo. A. Alden & Co., Boston.
William H. Scheel, New York.
Raven Mining Co., Chicago.

Infusorial Earth.

Stamford (Conn.) Rubber Supply Co.

Kapak.

Raven Mining Co., Chicago.

Lampblack.

Samuel Cabot, Boston.

Lead—Blue.**Lead—Sublimed White.**

Plecher Lead Co., Chicago, Ill.

Lithopone.

Gabriel & Schall, New York.

Paris White and Whiting.

H. F. Talnor Mfg. Co., New York.

Mineral Rubber.

Geo. A. Alden & Co., Boston.
Standard Asphalt & Rubber Co., Chicago.

Reclaimed Rubber.

Aladdin Rubber Co., Akron, O.
Alkali Rubber Co., Akron, O.
F. H. Appleton & Son, Boston.
Bloomington (N. J.) Soft Rubber Co.
E. H. Clapp Rubber Co., Boston, Mass.
Danversport Rubber Co., Boston.
Derby Rubber Co., Derby, Conn.
Eastern Rubber Co., New York.
John Lang, London.
Manufactured Rubber Co.
New Jersey Rubber Co., Lambertville, N. J.
Pequanoc Rubber Co., Butler, N. J.
Philadelphia Rubber Works, Philadelphia.
Robinson & Stiles, New York.
Stockton Rubber Co., Stockton, N. J.
Jos. Stokes Rubber Co., Trenton, N. J.
S. & L. Rubber Co., Chester, Pa.
Trenton (N. J.) Rubber Reclaiming Works.
U. S. Rubber Reclaiming Works, N. Y.
Westmoreland Rubber Mfg. Co., Grapeville, Pa.

Agents and Dealers.

Philip McGrory, Trenton, N. J.
H. P. Moorhouse, Paris, France.
Rubber Trading Co., New York-Boston.
Wm. Somerville's Sons, Liverpool.

Scrap Rubber.

L. Albert & Son, Trenton, N. J.
Bers & Co., Philadelphia.
M. Bersen & Co., New York.
Wm. H. Cummings & Sons, New York.
Goldberg & Rathman, Boston, Mass.
Gunnar Hirsch, Stockholm.
Theodore Hofeller & Co., Buffalo, N. Y.
A. W. Leslie & Co., Ltd., London, Eng.
B. Loewenthal & Co., New York and Chicago.
J. Loewenthal & Sons, Chicago.
Philip McGrory, Trenton, N. J.
Meyer Bros., Philadelphia, Pa.
M. Norton & Co., Charlestown, Mass.
San Giacomo Sons, Newark, N. J.

Scrap Rubber.—Continued.

J. Schnurmamm, London.
Schwab & Co., Philadelphia.
Trenton Gutta Percha & Rubber Separating Co., Trenton, N. J.
Trenton Scrap Rubber Supply Co., Trenton, N. J.
United States Waste Rubber Co., Braintree, Mass.
M. J. Wolpert, Odessa, Russia.

Substitute.

T. C. Ashley, Boston.
Joseph Cantor, New York.
Bell, Carter Mfg. Co., New York.
Geo. F. Lufbery, Jr., Elizabeth, N. J.
Massachusetts Chemical Co., Boston.
The Rubber Chemical Co., Birmingham, England.
C. P. Dos Santos, New York.
Wm. H. Scheel, New York.
Stamford (Conn.) Rubber Supply Co.
Standard Asphalt & Rubber Co., Chicago, Ill.
Typke & King, London, England.

Sulphur.

Battelle & Renwick, New York.
T. & S. C. White Co., New York.

Sulphur Chloride.

William H. Scheel, New York.
George W. Speaight, New York.
Stamford (Conn.) Rubber Supply Co.

Zinc Substitute.

Aluminum Flake Co., Akron, O.

Zinc Sulphide.

Joseph Cantor, New York.
Typke & King, London, England.

Zinc White.

New Jersey Zinc Co., New York.

BUYERS' DIRECTORY FOR RUBBER TIRES AND ACCESSORIES.**Auto Top Fabrics.**

Hodgman Rubber Co., New York.
National India Rubber Co., Bristol, R. I.

Fabrics.

Lane & Co., J. H., New York.
National India Rubber Co., Bristol, R. I.

Flanges and Rings.

The A. Dewes Co., New York.

Insulated Wires.

National India Rubber Co., Bristol, R. I.

Mats, Automobile.

Boston Woven Hose & Rubber Co., Cambridge, Mass.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
Manhattan Rubber Mfg. Co., New York.
National India Rubber Co., Bristol, R. I.
Revere Rubber Co., Boston, Mass.

Repair Stock.

Trenton Rubber Mfg. Co., Trenton, N. J.
Rims, Wheel.
Goodrich Co., B. F., Akron, Ohio.

Tires.

Bailey & Co., C. J., Boston, Mass.
Canadian Rubber Co., of Montreal, Ltd.
Continental Caoutchouc Co., New York.
Continental Rubber Works, Erie, Pa.
Dunlop Tire & Rubber Goods Co., Toronto.
Empire Rubber Mfg. Co., Trenton, N. J.
Goodrich Co., B. F., Akron, Ohio.
Gutta Percha & Rubber Mfg. Co., Toronto.
Kokomo Rubber Co., Kokomo, Ind.
Lake Shore Rubber Co., Erie, Pa.
Milford Rubber Works, Milford, Ill.
North British Rubber Co., Ltd., Edinburgh, Scotland.
Pirelli & Co., Milan, Italy.
Plymouth Rubber Co., Stoughton, Mass.
Republic Rubber Co., Youngstown, Ohio.

Tires.—Continued.

Trenton Rubber Mfg. Co., Trenton, N. J.
Victor Auto Tire Repair Co., Passaic, N. J.

Automobile and Carriage.

Acme Rubber Mfg. Co., Trenton, N. J.
Boston Belting Co., Boston-New York.
Revere Rubber Co., Boston-New York.

Tire Fabrics.

Lane & Co., J. H., New York.

Tire Repairing.

Voorhees Rubber Mfg. Co., Jersey City, N. J.

Treads.

Boston Woven Hose & Rubber Co., Cambridge, Mass.
Manhattan Rubber Mfg. Co., New York.
Revere Rubber Co., Boston, Mass.

Valves, Tire.

Schrader's Sons, Inc., A., New York.

**The Victor Felt Tread Inner Tube**

Renders any tire impervious to

PUNCTURE LEAKAGE BLOW OUT

It is **Resilient, Economical, Convenient.** In short, it promotes automobile satisfaction at a minimum cost.

Details on request to

The Victor Auto Tire Repair Co.

INCORPORATED

220 MADISON ST., PASSAIC, N. J.

1907.

ed.

ed.

Separat

y Co.

Brook

ork.

N. J.

ston.

ingham.

Co.

Chicago.

rk.

ly Co.

L. J.

N. J.

N. J.

Cam-

k.

e

n

t.

.